

AD/A-002 861

**A STRUCTURAL WEIGHT ESTIMATION PROGRAM  
(SWEEP) FOR AIRCRAFT. VOLUME VI - WING  
AND EMPENNAGE MODULE. APPENDIX D:  
PROGRAM FLOW CHARTS, OVERLAY (18,0)**

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**Prepared for:**

**Aeronautical Systems Division**

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Three computer programs were written with the objective of predicting the structural weight of aircraft through analytical methods. The first program, the structural weight estimation program (SWEEP), is a completely integrated program including routines for airloads, loads spectra, skin temperatures, material properties, flutter stiffness requirements, fatigue life, structural sizing, and for weight estimation of each of the major			

**20. ABSTRACT (CONTINUED)**

aircraft structural components. The program produces first-order weight estimates and indicates trends when parameters are varied. Fighters, bombers, and cargo aircraft can be analyzed by the program. The program operates within 100,000 octal units on the Control Data Corporation 6600 computer. Two stand-alone programs operating within 100,000 octal units were also developed to provide optional data sources for SWEEP. These include (1) the flexible airloads program to assess the effects of flexibility on lifting surface airloads, and (2) the flutter optimization program to optimize the stiffness distribution required for lifting surface flutter prevention.

→ The final report is composed of 11 volumes. This volume (volume VI) contains the methods and program description for the wing and empennage module of SWEEP. Program listings and flow charts are included in the appendix to this volume.




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**JAMES H. BALL, Colonel, USAF**  
Deputy for Development Planning

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APPENDIX D

PROGRAM FLOW CHARTS, OVERLAY

(18,0)

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ØLAY18	1970	2554
ACEIGJ	2096	2629
ACLØAD	1982	2561
ACMRSK	2074	2615
ACNSTR	2100	2632
ACPRØG	2000	2572
ACPRTA	2111	2642
ACSTRG	2079	2619
ACWFDH	2027	2590
ACWMS	2012	2580
ACWRBS	2044	2598
ACWSTR	2057	2606
ASTIFF	2090	2624
ATBØPT	1973	2554
AVLØAD	1996	2569
BHDJT	2128/1734	2650/2470
CKSFDH	2034	2594
CKSTAB	2006	2577
CSECW	2138/1680	2651/2453
DEADW	2136/1638	2651/2432
DLPVT	2146/1684	2652/2455
DWYBA	2134/1633	2651/2429
PIVØT	2140/1660	2651/2443
PRTB	2148/1902	2652/2546
PRTC	2150/1907	2652/2548
PRTH	2152/1703	2653/2466
RTRIB	2130/1887	2651/2541
TEE	2142/1672	2652/2450
TEL	2144/1676	2652/2452
TEMPC	1990	2566
WEIGH1	2038	2595
WEIGH2	2086	2622
WTCAL	2126/1871	2650/2531
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OVERLAY (18,0)

TORQUE-BOX STRUCTURAL SYNTHESIS/WEIGHT ANALYSIS  
FOR ADVANCED COMPOSITE DESIGNS

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AND TABLE OF DIAGNOSTICS**

FORTRAN MODULE HING AND EXPERIENCE MODULE -

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - PROCEDURES

(000019)	2.04	18	(000017)	2.03	(000017)	2.03
(000027)	2.08	20	(000025)	2.07	(000025)	2.07

CHART TITLE - NON-PROCEDURAL STATEMENTS

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CHART TITLE - SUBROUTINE AUTOPT

(000020)	5.01	AUTOPT	(001509)	35.11-X
(000121)	5.04	300	(000117)	5.03
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(000142)	5.02	310		
(000150)	5.03	400	(000122)	5.05
			(000130)	5.13
			(000141)	5.01
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(000160)	5.05	4000		
(000170)	5.06	401		
(000174)	5.11	402		
(000175)	5.12	403	(000171)	5.08
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(000218)	5.33	414	(000210)	5.30
(000223)	7.01	415	(000195)	5.23
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(000227)	7.04	4151		
(000229)	7.06	4152	(000225)	7.02
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(000240)	7.10	416	(000228)	7.05
(000247)	7.12	4160	(000218)	5.33
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(000287)	7.32	431	(000285)	7.30

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(000299)	7.33	432										
(000299)	7.34	433	(000297)	7.32								
(000299)	7.35	434										
(000301)	7.36	440	(000291)	6.25	(000212)	7.14	(000263)	7.15	(000264)	7.16	(000266)	7.17
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(000306)	8.02	442										
(000310)	8.04	443										
(000311)	8.05		(000314)	8.08								
(000313)	8.07	444										
(000314)	8.08	445	(000312)	8.06								
(000320)	8.09	450	(000305)	8.01	(000309)	8.03						
(000321)	8.10	451										
(000326)	8.12	460	(000320)	8.09								
(000329)	8.13	500	(000323)	8.11								
(000333)	8.14	8900										
(000336)	8.16		(000330)	8.17								
(000338)	8.17	8901										
(000350)	8.20	796										
(000395)	8.01	700	(000301)	8.20								
(000398)	8.02	7000										
(000397)	8.03		(000399)	8.04								
(000399)	8.04	7001										
(000399)	8.06	701	(000395)	8.01								
(000400)	8.07		(000401)	8.08								
(000401)	8.08	7010										
(000405)	8.10		(000406)	8.11								
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(000413)	8.12	710										
(000417)	8.14		(000421)	8.16								
(000421)	8.16	711										
(000429)	8.19	712	(000425)	8.18								
(000430)	8.20	713										
(000438)	8.22	714	(000425)	8.18	(000429)	8.19						
(000442)	8.24	715										
(000446)	10.01	716	(000441)	9.23								
(000452)	10.02	720	(000444)	9.24								
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(000459)	10.06	750										
(000470)	10.07		(000476)	10.12								
(000472)	10.09	751										
(000474)	10.11	752										
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(000526)	10.38	785										
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CHART TITLE - SUBROUTINE ACLOAD

(000540) 14.01 ACLOAD (001453) 32.23-X



CHART TITLE - SUBROUTINE ACROD

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(001200)	20.14	100	(001203)	20.13
(001211)	20.16	100	(001203)	20.13
(001220)	20.24	100		
(001243)	20.30	100	(001226)	20.23
(001243)	20.31	100		
(001257)	20.02	100		
(001250)	20.03	100	(001256)	20.01
(001250)	20.04	100	(001257)	20.02
(001261)	20.05	100	(001258)	20.03
(001262)	20.06	100	(001263)	20.07
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(001260)	20.11	100	(001270)	20.12
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(001273)	20.14	100	(001295)	20.17
(001295)	20.17	100		
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(001298)	20.21	100		
(001298)	20.23	100		
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(001315)	20.33	100		

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CHART TITLE - INTRODUCTORY COMMENTS

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(001420)	32.06	503		
(001430)	32.07	503	(001431)	32.08
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(001434)	32.11	503		
(001435)	32.12	503	(001433)	32.10
(001436)	32.13	503		
(001441)	32.14	503	(001435)	32.12
(001442)	32.15	503		
(001443)	32.16	503		
(001445)	32.18	503		
(001446)	32.19	503	(001442)	32.15
(001447)	32.20	504	(001444)	32.17
(001449)	32.22	504		
(001453)	32.23	505	(001441)	32.14
(001460)	33.01	505	(001446)	32.18
(001463)	33.02	505	(001440)	32.21
(001463)	33.02	505		
(001470)	33.06	505	(001471)	33.08
(001471)	33.08	507		
(001480)	33.09	100		
(001482)	33.11	101		
(001486)	33.13	102	(001481)	33.10
(001487)	33.14	102	(001480)	33.16
(001480)	33.16	100		
(001482)	33.17	100		
(001483)	33.18	100	(001480)	33.19
(001485)	33.19	101		
(001489)	33.20	200		
(001504)	33.22	200	(001501)	33.21

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(000000)	14.01 370								
(000001)	14.02	(000007)	14.03						
(000002)	14.03 301								
(000003)	14.05	(000008)	14.06						
(000004)	14.06 302								
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(000006)	14.09	(000010)	14.11						
(000007)	14.11 311								
(000008)	14.14	(000012)	14.16						
(000009)	14.16 312								
(000010)	14.19 320	(000014)	14.07						
(000011)	14.21 3240								
(000012)	15.01 3525	(000016)	14.20						
(000013)	15.02 3530	(000018)	14.21						
(000014)	15.04	(000017)	15.11						
(000015)	15.06 3600								
(000016)	15.07 3505								
(000017)	15.08 3503	(000015)	15.05	(000007)	15.08				
(000018)	15.09 321								
(000019)	15.13 3211								
(000020)	15.14 3210	(000017)	15.12						
(000021)	15.16 322								
(000022)	15.17 323	(000020)	15.15						
(000023)	15.18	(000025)	15.19						
(000024)	15.19 324								
(000025)	15.21 3605								
(000026)	16.01 3510								
(000027)	16.03	(000027)	16.08						
(000028)	16.08 325	(000028)	15.15	(000027)	15.20				
(000029)	16.10	(000029)	16.10	(000016)	17.19				
(000030)	16.10	(000030)	16.12						
(000031)	16.12 3250								
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(000033)	16.16 3251	(000035)	16.14						
(000034)	16.17 3250								
(000035)	16.20 3615	(000037)	16.16						
(000036)	16.25 326								
(000037)	16.27 327								
(000038)	17.01 328	(000038)	16.24						
(000039)	17.02 329	(000039)	16.24	(000039)	16.26	(000032)	16.27		
(000040)	17.05 330								
(000041)	17.07 331								
(000042)	17.09 370	(000042)	17.04	(000045)	17.06	(000051)	17.11		
(000043)	17.10 337	(000043)	16.12			(000052)	16.01		
(000044)	17.11 338	(000044)	17.08			(000053)	16.05		
(000045)	17.12 370	(000045)	17.09						
(000046)	17.13 3600								
(000047)	17.14 3605								
(000048)	17.16 3702								
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(000050)	17.18 3701								
(000051)	18.01 333	(000051)	17.11						
(000052)	18.02 334								
(000053)	18.04 335								
(000054)	18.05 336	(000054)	18.03	(000054)	18.04	(000055)	18.06		
(000055)	18.06 336	(000055)	17.10	(000057)	19.01	(000058)	19.02		
(000056)	18.07 336								
(000057)	18.09 341	(000057)	18.08						
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(000059)	18.12 343	(000057)	18.08	(000058)	18.10	(000059)	18.11		
(000060)	18.13 343	(000059)	18.11			(000060)	18.10		
(000061)	18.15 344								
(000062)	18.16 345	(000061)	18.14	(000062)	19.08	(000063)	19.09		
(000063)	18.18 346	(000062)	17.10						
(000064)	18.02 347								
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(000066)	18.05 349								
(000067)	18.07 350								
(000068)	18.09 351								
(000069)	18.10 3700	(000069)	15.08	(000062)	18.15	(000065)	17.12		
(000070)	18.12 360	(000070)	14.10	(000064)	17.09	(000066)	17.15		
(000071)	18.14	(000070)	19.15						

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1000032	19.17	302				
1000041	19.21		1000041	19.23		
1000044	19.23	303				
1000048	19.25	304				
1000050	19.27		1000050	19.29		
1000056	19.30	305				
1000059	19.31	306	1000051	19.16	1000071	19.24

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CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE TEMPC

1000071	22.01	TEMPC	1001453	22.25-X
1000087	22.03		1002075	22.01
1000090	22.03	200		
1000101	22.04	201	1002170	22.03
1000110	22.07	200	1002120	22.03
1000202	22.09		1002087	23.08
1000227	22.11	7		
1000227	22.11		1002087	22.12
1000229	22.13	6	1002082	22.03
1000235	22.16	1		
1000236	22.16		1002030	22.17
1000236	22.16	8	1002073	22.12
1000265	23.04	201		
1000267	23.06	2	1000004	23.03
1000275	23.09	3		
1000277	23.10	4	1000074	23.08
1000278	23.11	5	1000076	23.09
1000282	23.13	230		
1000289	23.15		1000000	23.17
1000290	23.17	233		
1000295	23.18	240		
1001007	23.19	100	1002081	23.12
1001008	23.20		1001004	23.05
1001008	23.21		1001010	23.02
1001010	23.22	1000		
1001013	23.24		1001014	23.25
1001014	23.25	101		
1001017	23.27	102		
1001020	24.01	103	1001017	23.27
1001025	24.03		1001026	24.04
1001026	24.04	104		
1001029	24.06	105	1001017	23.27
1001047	24.11	2400	1001044	24.10
1001048	24.12	245		
1001050	24.14	240	1001047	24.11
1001057	24.15	243		
1001062	25.01	247	1001047	24.11
1001061	25.03	250	1001050	24.14
1001064	25.05	109	1001016	23.26
1001068	25.07	255	1001044	24.10
1001069	25.08		1001050	24.13
1001073	25.10	261	1001059	24.16
1001077	25.12	262	1001074	25.02
1001082	25.14			
1001083	25.15	263	1001083	25.15
1001085	25.16	264	1001076	25.11
1001088	25.17	269	1001072	25.09
1001088	25.20		1001086	25.02
1001088	25.22	2692		
1001089	25.23	2695	1001087	25.08

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10015121	34.01	201	10016401	35.35			
10015161	34.03	202	10015131	34.02	10016401	35.35	
10015181	34.05	203	10015131	34.02			
10015211	34.06	210	10015011	33.21	10015051	33.23	10015091 33.45
10015281	34.08	211					
10015341	34.11		10015401	35.01			
10016441	34.14	400	10015021	33.25	10015171	34.04	10016401 35.35
10016451	34.15		10016471	34.16			
10016471	34.16	401					
10016481	35.01	2110					
10016441	35.02	220	10015071	35.10			
10016491	35.05	223					
10016501	35.07	230	10016481	35.04			
10016641	35.09		10015651	35.10			
10016651	35.10	231					
10016691	35.11	240					
10016731	35.12	250					
10016741	35.13		10015771	35.14			
10016771	35.14	251					
10016811	35.15	260					
10016851	35.17	270					
10016901	35.18	280	10015071	35.10			
10016941	35.21		10015961	35.22			
10016961	35.22	281					
10016121	35.24		10016251	35.25			
10016221	35.26	282					
10016251	35.28	283	10016211	35.27			

CHART TITLE - NON-PROCEDURAL STATEMENTS

CHART TITLE - INTRODUCTORY COMMENTS

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10016051	38.01	CKSTAB	10020221 49.07-X	10025551 50.00-X	10023231 51.20-X	10023311 51.24-X	10023941 52.09-X
			10023521 52.13-X	10023941 52.23-X	10023321 52.28-X	10024901 53.21-X	10024501 53.26-X
			10035211 61.06-X	10035291 61.13-X	10041501 67.23-X	10041631 67.27-X	
10016081	38.04		10016071	38.02			
10017171	38.11	1	10017131	38.10			
10017271	38.15		10017261	38.13			
10017301	38.17		10017271	38.15			
10017371	38.01	2	10017131	38.10			
10017431	38.03	3	10017361	38.10			
10017451	38.05	4					
10017471	38.05	5	10017441	38.04			
10017541	38.07	7	10016081	38.04			
10017701	38.16	8					
10018101	40.01	15	10018071	40.04			
10018051	40.03	14	10018021	40.10			
10018071	40.04	13	10018041	40.08			
10018081	40.05	10	10018121	40.02			
10018031	40.06	12					
10017011	40.07	9	10017701	38.15			
10017621	40.08	16	10017001	38.10			
10017971	40.12	17	10018091	40.05			
10017801	40.13	11					
10018141	40.17	16	10018101	40.01	10017051	40.06	
10018171	40.20		10018151	40.10			
10018231	40.22		10018191	40.20			
10018241	40.22	88	10017401	38.05	10017401	38.08	
10018351	40.25	290					
10018371	41.01	294	10018381	40.25			
10018401	41.05	299	10018381	40.25			

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CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE ACWIS

10018361	44.01	ACWIS	1003261	0.12-X			
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(001946)	44.05	300										
(001950)	44.07		(001952)	44.08								
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(001957)	44.11	3004										
(002003)	44.12	320	(001955)	44.10								
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(002010)	44.15	321										
(001951)	44.17	301	(001957)	44.11								
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(001954)	44.20	303	(001957)	44.11								
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(001971)	44.22	304										
(001975)	45.01	305	(001957)	44.11								
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(001987)	45.04	308										
(001988)	45.05	310	(001985)	45.03								
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(001979)	45.08	305	(001975)	45.02								
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(001982)	45.10	307										
(002010)	45.11	322	(002013)	44.16								
(002017)	45.12		(002020)	45.13								
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(002024)	45.14	350	(002013)	44.16	(001985)	44.10	(001972)	44.22	(001932)	45.07	(001983)	45.10
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(002047)	45.14		(002049)	45.17								
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(002116)	47.05	304	(002114)	47.03								
(002119)	47.07	305										
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(002137)	47.20	00										
(002140)	47.22		(002145)	47.20								
(002141)	47.23	150										
(002142)	47.24	151	(002146)	47.22								

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(002150)	48.03		(002151)	48.04						
(002151)	48.04	603								
(002160)	48.09	160								
(002163)	48.10	161	(002167)	48.00						
(002170)	48.11	162								
(002171)	48.12	163	(002169)	48.10						
(002172)	48.13	164								
(002173)	48.14	165	(002171)	48.12						
(002174)	48.15	166								
(002175)	48.16	167	(002173)	48.14						
(002179)	48.17	1009								
(002180)	48.18	1031								
(002197)	48.22	1009	(002179)	48.17						
(002201)	48.23	130	(002197)	48.22						
(002213)	49.01	1309	(002197)	48.22						
(002216)	49.04		(002214)	49.02						
(002221)	49.06		(002244)	50.04						
(002222)	49.07	131	(002228)	49.09						
(002225)	49.09	132								
(002231)	49.10	133	(002224)	49.00						
(002232)	49.11	134								
(002233)	49.12	135								
(002238)	50.01	136	(002232)	49.11						
(002239)	50.02	137								
(002240)	50.03	138	(002239)	50.01						
(002244)	50.04	139	(002231)	49.10	(002236)	49.12	(002238)	50.01	(002239)	50.02
(002251)	50.05	140								
(002254)	50.07		(002275)	50.10						
(002255)	50.08	141	(002260)	50.11						
(002259)	50.11	142								
(002264)	50.12	143	(002257)	50.10						
(002265)	50.13	144								
(002266)	50.14	145								
(002270)	50.15	146	(002269)	50.13						
(002271)	50.16	147								
(002272)	50.17	148	(002270)	50.15						
(002275)	50.18	149	(002264)	50.12	(002268)	50.14	(002270)	50.15	(002271)	50.16
(002280)	50.19	230	(002267)	48.24						
(002281)	50.20		(002283)	50.21						
(002283)	50.21	2300								
(002288)	50.23	240								
(002299)	50.24		(002304)	51.10						
(002291)	51.02		(002298)	51.07						
(002292)	51.03	2400								
(002297)	51.06	241								
(002298)	51.07	242	(002291)	51.02	(002296)	51.05				
(002301)	51.09	243								
(002304)	51.10	244	(002300)	51.00						
(002309)	51.13	245								
(002310)	51.14	246	(002308)	51.12						
(002321)	51.19		(002319)	51.17						
(002322)	51.19	610								
(002330)	51.23		(002343)	52.03						
(002331)	51.24	611	(002337)	51.26						
(002341)	51.26	612								
(002339)	52.01	613	(002333)	51.25						
(002340)	52.02	614								
(002343)	52.03	619	(002339)	52.01						
(002346)	52.04	620								
(002350)	52.06	6200								
(002353)	52.07	6201	(002349)	52.09						
(002361)	52.12		(002374)	52.10						
(002362)	52.13	621	(002360)	52.19						
(002365)	52.15	622								
(002370)	52.16	623	(002364)	52.14						
(002371)	52.17	624								
(002374)	52.18	625	(002370)	52.16						
(002379)	52.19	630	(002349)	52.09						
(002382)	52.22		(002380)	52.20						
(002391)	52.27		(002404)	53.03						

CARD ID	PAGE-LOC	NINE	REFERENCES	SOURCE	SEQUENCE NO.	AND PAGE
(002392)	52.20	631	(002398)	52.30		
(002395)	52.30	632				
(002400)	53.01	633	(002394)	52.29		
(002401)	53.02	634				
(002404)	53.03	635	(002403)	53.01		
(002415)	53.05	690				
(002417)	53.07	691				
(002422)	53.09	692	(002416)	53.06		
(002423)	53.09		(002424)	53.10		
(002424)	53.10	693				
(002427)	53.11	35				
(002430)	53.12	6590				
(002431)	53.13	6991				
(002440)	53.17	6999	(002439)	53.12		
(002443)	53.18	700	(002440)	53.17		
(002444)	53.19	701				
(002447)	53.20	750	(002443)	53.18		
(002448)	53.22	751				
(002449)	53.23	710	(002444)	53.19	(002447)	54.01
(002447)	54.01	702	(002444)	53.19		
(002452)	54.02	703	(002447)	54.01		
(002454)	54.04		(002452)	54.07		
(002462)	54.07	704				
(002477)	54.10	707	(002467)	54.09		
(002478)	54.11		(002480)	54.12		
(002480)	54.12	708				
(002470)	54.13	705	(002467)	54.09		
(002471)	54.14		(002473)	54.15		
(002473)	54.15	706				
(002510)	55.01	717	(002487)	55.08	(002531)	55.11
(002488)	55.03	711	(002484)	53.23		
(002489)	55.04	712				
(002491)	55.06		(002495)	55.07		
(002495)	55.07	713				
(002573)	55.09	800	(002440)	53.17	(002549)	55.22
			(002517)	54.01	(002510)	54.12
					(002513)	55.02
					(002561)	56.16
					(002488)	55.03
					(002497)	55.08
(002576)	55.10	999				
(002501)	55.11	714	(002487)	55.08		
(002502)	55.12	715	(002513)	55.02		
(002504)	55.14		(002506)	55.15		
(002506)	55.15	716				
(002517)	56.01	720	(002484)	53.23		
(002518)	56.02	721				
(002520)	56.04		(002524)	56.05		
(002524)	56.05	722				
(002528)	56.08	723	(002540)	56.12		
(002529)	56.09		(002531)	56.10		
(002531)	56.10	724				
(002537)	56.11	725	(002527)	56.07		
(002552)	56.13	752	(002549)	53.22		
(002553)	56.14		(002557)	56.15		
(002557)	56.15	753				
(002561)	56.16	754	(002540)	53.21		
(002562)	56.17	755				
(002563)	56.18		(002567)	56.19		
(002567)	56.19	756				

CHART TITLE - NON-PROCEDURAL STATEMENTS

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE ACMECHIN

(002587)	59.01	ACMECH	(002601)	60.23-X
(002643)	60.02		(002644)	60.03
(002644)	60.03	201		
(002657)	60.03		(002658)	60.04
(002658)	60.04	202		
(002661)	60.05	210	(002662)	63.19
(002662)	60.06		(002613)	63.12
(002665)	60.09	211		
(002672)	60.11	993		

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CARD ID	PAGE/BOX	NAME	REFERENCES	SOURCE	SEQUENCE NO.	AND PAGE/BOX						
(002670)	60.15	212										
(002709)	60.16	230	(002677)	60.14								
(002711)	60.18	231										
(002712)	60.19	232										
(002713)	60.20	233										
(002719)	60.21	240	(002711)	60.18	(002712)	60.19						
(002721)	60.23	241										
(002722)	60.24	242	(002720)	60.22								
(002730)	60.25	250	(002710)	60.17								
(002733)	60.27	251										
(002734)	60.28	252	(002732)	60.26								
(002737)	60.30	253										
(002725)	60.31	243	(002722)	60.24								
(002681)	61.01	213	(002670)	60.15								
(002682)	61.02	214										
(002685)	61.04	2140										
(002688)	61.05	215	(002678)	70.15	(002691)	61.01	(002684)	61.03				
(002689)	61.06	216										
(002690)	61.07	217										
(002691)	61.08	218										
(002699)	61.09	220	(002688)	61.05								
(002705)	61.11	221	(002702)	61.10								
(002741)	62.01	260	(002722)	60.24	(002736)	60.29	(002702)	61.10	(002763)	62.11	(002764)	62.12
(002750)	62.04	260										
(002754)	62.06	261										
(002756)	62.08	262										
(002757)	62.09	263	(002753)	62.05	(002755)	62.07						
(002758)	62.10	264										
(002763)	62.11	265	(002757)	62.09								
(002764)	62.12	266										
(002768)	62.13	270	(002722)	60.24	(002736)	60.29	(002702)	61.10				
(002769)	62.14	271	(002765)	62.19								
(002779)	62.17	291										
(002788)	63.01	272	(002765)	62.19								
(002797)	63.04	292										
(002802)	63.05	273	(002765)	62.19								
(002803)	63.06	274										
(002805)	63.08	275										
(002806)	63.09	276	(002802)	63.05	(002804)	63.07						
(002807)	63.10	277										
(002810)	63.11	278	(002806)	63.09								
(002813)	63.12	289	(002684)	60.07	(002738)	60.30	(002726)	60.31	(002689)	61.06	(002690)	61.07
			(002695)	61.08	(002706)	61.11	(002704)	62.12				
(002816)	63.13	290										
(002819)	63.14	291	(002816)	63.13								
(002820)	63.15		(002823)	63.16								
(002823)	63.18	292										
(002825)	63.18	293										
(002826)	63.19	294	(002824)	63.17								
(002831)	63.20	295	(002816)	63.13								
(002832)	63.21	296										
(002833)	63.22	297	(002831)	63.20								
(002838)	63.23	298										
(002846)	63.24	299	(002871)	60.10	(002749)	62.03	(002778)	62.16	(002786)	63.03		

CHART TITLE - NON-PROCEDURAL STATEMENTS

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE CRYSTALLOGRAPHY

(002897)	66.01	CRYSTAL	(002867)	60.09-X	(002745)	62.02-X	(002774)	62.15-X	(002782)	63.02-X
(002891)	66.02	200								
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(002896)	66.10	202								
(002898)	67.01	203	(002895)	66.09						
(002899)	67.02	204	(002897)	66.10						
(002894)	67.06	205								
(002893)	67.06	206								
(002894)	67.10	207	(002899)	67.07						
(002893)	67.11	210								



1002942	67.13	211		
1002943	67.14	212		
1002945	67.15	213	1002941	67.12
1002947	67.17	214		
1002950	67.18	215	1002944	67.14
1002952	67.20	216	1002946	67.16
1002954	67.21	217	1002951	67.19
1002955	67.22	218	1002953	67.20
1002962	67.24	200	1002942	67.13
1002963	67.25	204		
1002969	67.28		1002971	67.31
1002971	67.31	207		
1002976	67.32	209	1002962	67.24

CHART TITLE - NON-PROCEDURAL STATEMENTS

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE MEIGH(ME1,MS1AT)

1003000	70.01	ME10H1	1003415	63.05-H
1003027	70.02		1003020	70.03
1003030	70.03	300		
1003030	70.06		1003040	70.07
1003040	70.07	301		
1003057	71.03	300		
1003058	71.04		1003063	71.06
1003060	71.06	301		
1003061	71.07	302	1003050	71.05
1003063	71.09	303		
1003073	71.12	3030		
1003081	71.14	3031	1003072	71.11
1003094	71.15	3030	1003070	71.13
1003095	71.16		1003087	71.17
1003097	71.17	304		
1003103	71.20	400	1003090	71.10
1003109	72.01	4000	1003080	71.10
1003113	72.02	4001	1003100	72.01
1003122	72.04	401	1003100	72.01
1003125	72.06	402		
1003127	72.07	4020	1003124	72.06
1003130	72.08	4021	1003124	72.06
1003131	72.09		1003133	72.10
1003133	72.10	4022		
1003137	72.11	403	1003106	71.20
1003140	72.13	404		
1003144	72.14	405	1003130	72.12
1003147	72.16	406		
1003151	72.17	407	1003146	72.15
1003150	73.03		1003150	73.04
1003150	73.04	400		
1003163	73.05	400		
1003164	73.06	404		
1003172	73.09		1003174	73.12
1003174	73.12	400		
1003170	73.15	400	1003163	73.05

CHART TITLE - NON-PROCEDURAL STATEMENTS

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE ACMB5

1003109	70.01	ACMB5	1003211	8.10-H
1003209	70.03		1003271	70.04
1003271	70.04	300		
1003275	70.06		1003270	70.07
1003276	70.07	3001		
1003278	70.09		1003270	70.10
1003279	70.10	3002		
1003283	70.12		1003207	70.13

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CARD ID PAGE/PUK NAME

REFERENCE SOURCE SEQUENCE NO. AND PAGE/PUK

1003023)	09.06	103										
1003024)	09.07	104										
1003025)	09.08	105	1003023)	09.06								
1003026)	09.09	106										
1003028)	09.10	107	1003022)	09.09	1003025)	09.08						
1003032)	09.12	109										
1003033)	09.13	110										
1003034)	09.14	111	1003032)	09.12								
1003035)	09.15	112										
1003039)	09.16	200	1003015)	09.03	1003031)	09.11	1003034)	09.14				
1003052)	00.01	250	1004330)	101.10								
1003066)	00.03	300	1003040)	09.17	1003062)	00.02						
1003068)	00.05	3000										
1003072)	00.06	3001	1003068)	00.04								
1003073)	00.07	3002										
1003077)	00.08	3003	1003072)	00.06								
1003080)	00.10	301										
1003081)	00.11	302	1003079)	00.09								
1003085)	00.12	304	1004270)	100.02	1004377)	103.03						
1003087)	00.14	3040										
1003088)	00.15	3041	1003088)	10.13								
1003097)	00.16	305										
1003091)	01.01	306	1003088)	00.10								
1003092)	01.02	3060										
1003094)	01.04	307										
1003098)	01.06	308	1003093)	01.03								
1003099)	01.07	309										
1003100)	01.08	310	1003098)	01.06								
1003101)	01.10	320	1003098)	00.17	1003098)	00.19						
1003021)	01.13	321										
1003022)	01.14	322	1003020)	01.12								
1003023)	01.15	323										
1003097)	01.16	400	1003022)	01.14	1003030)	02.00	1003050)	03.07	1003089)	03.20	1003072)	04.04
1003027)	02.01	337	1003021)	01.13	1003023)	01.15						
1003028)	02.03	331										
1003030)	02.04	332	1003028)	02.02	1003037)	02.00	1003030)	02.10				
1003035)	02.06	333										
1003037)	02.08	334										
1003038)	02.09	335	1003036)	02.07								
1003039)	02.10	336										
1003042)	02.11	337	1003038)	02.09	1003050)	03.07						
1003043)	02.12	338										
1003047)	02.13	339	1003042)	02.11								
1003050)	03.01	340	1003048)	02.14								
1003052)	03.02	341	1003044)	03.10								
1003050)	03.06	342										
1003050)	03.07	343	1003057)	03.05								
1003060)	03.08	344										
1003061)	03.09	345	1003060)	03.06								
1003062)	03.10	346										
1003075)	03.11	360	1003061)	01.13	1003023)	01.15	1003037)	02.00	1003050)	02.10	1003044)	02.12
			1003050)	03.06	1003060)	03.08	1003061)	03.09	1003071)	04.03	1003072)	04.04
1003076)	03.12	361	1003064)	03.10								
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1003083)	03.17	363										
1003084)	03.18	364	1003062)	03.16								
1003085)	03.19	365										
1003089)	03.20	366	1003083)	03.17								
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1003070)	04.04	351										
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1004010)	04.14	405	1004012)	04.12	1004020)	04.21						
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1004020)	04.16	407	1004016)	04.14								
1004022)	04.17	408	1004023)	04.24								
1004025)	04.22	409										
1004030)	04.23	4000										
1004031)	04.24	4001										

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CARD NO	PAGE/BOX	NAME	REFERENCES	(SOURCE SEQUENCE NO. AND PAGE/BOX)				
(004037)	95.01	410	(004013)	94.13	(004018)	94.15	(004029)	94.22
(004045)	95.06	411			(004030)	94.23	(004044)	95.05
(004046)	95.07	412	(004054)	95.13				
(004053)	95.13	413						
(004060)	95.01	500	(003259)	91.10	(004052)	95.12		
(004062)	95.02	501	(004101)	96.27				
(004063)	95.04		(004081)	96.14				
(004068)	95.05	502						
(004075)	95.09	5020						
(004076)	95.10	503	(004074)	96.00				
(004079)	95.13		(004078)	96.11				
(004081)	95.14	504	(004068)	96.04	(004075)	96.09		
(004095)	95.16	505						
(004105)	95.17	510	(004094)	96.19				
(004106)	95.18	5100	(004095)	96.16				
(004107)	95.19	511						
(004099)	95.20	506	(004095)	96.16				
(004098)	95.21	507						
(004092)	95.22	508	(004095)	96.20				
(004094)	95.23	509	(004100)	96.19	(004091)	96.21	(004222)	99.12
(004112)	97.01	512	(004106)	96.10	(004220)	99.14		
(004117)	97.03		(004120)	97.10				
(004119)	97.05	513						
(004122)	97.07	514						
(004125)	97.09	515						
(004126)	97.10	516	(004118)	97.04	(004121)	97.06	(004124)	97.08
(004125)	97.12	5160						
(004130)	97.14	517						
(004136)	97.16	518	(004137)	97.13				
(004147)	97.17	519	(004134)	97.11				
(004148)	97.18	5190						
(004152)	97.19	520	(004144)	97.16	(004147)	97.17		
(004154)	97.21	5200						
(004157)	97.22	5201	(004153)	97.20				
(004165)	97.26		(004170)	98.03				
(004166)	97.27	521	(004172)	97.29				
(004168)	97.29	522						
(004174)	98.01	523	(004160)	97.20				
(004175)	98.02	524						
(004178)	98.03	525	(004174)	98.01				
(004182)	98.04	530						
(004184)	98.06		(004184)	98.01				
(004185)	98.07	531						
(004186)	98.08	532	(004193)	98.11				
(004190)	98.11	533						
(004194)	98.01	534	(004184)	98.06	(004188)	98.10		
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(004201)	98.04	541						
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(004215)	98.10	5420						
(004216)	98.11	5430						
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(004224)	98.14	5440						
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(004250)	100.12		(004252)	100.15				
(004252)	100.15	005						
(004254)	100.16	0005	(004236)	100.02				
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(004259)	100.18	701	(004250)	100.17				
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(004332)	101.12	712	(004303)	101.07				
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CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE ACTIVITY (ASTR, STRL)

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CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE ACSTP3

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100-698)	111.06	412										
100-699)	111.07	413										
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100-704)	111.11	415										
100-705)	111.12	416										
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CHART TITLE - INTRODUCTORY COMMENTS

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000217	140.13	070	000210	140.11
000224	140.15	071		
000233	140.16	072	000223	140.14
000234	140.17	073		
000236	140.19		000238	140.20
000238	140.20	074		
000241	140.21	075	000233	140.16
000243	140.23		000245	140.24
000245	140.24	076		
000249	140.25	079		
000254	140.26	080		

CHART TITLE - NON-PROCEDURAL STATEMENTS

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE ACPTA

000304	143.01	ACPTA	000333	143.02-X
000336	143.01	300		
000338	143.04	320		
000334	143.05		000401	143.08
000401	143.08	301		
000406	143.11	3210		
000408	143.12	3211	000405	143.11
000410	143.14		000414	143.18
000414	143.16	302		
000420	143.20		000424	144.03
000424	144.03	323		
000427	144.04	3270	000406	144.27
000429	144.06		000436	144.09
000430	144.09	324		
000441	144.12		000444	144.14
000444	144.14	325		
000448	144.15	330	000405	143.11
000450	144.17		000453	144.19
000453	144.19	331		
000458	144.23		000464	144.27
000464	144.27	332		
000468	145.01	340	000464	143.10
000470	145.03		000474	145.05
000474	145.05	341		
000480	145.09		000484	145.12
000484	145.12	342		
000490	145.16		000484	145.10
000494	145.19	343		
000504	145.26		000521	145.34
000521	145.34	344		
000526	146.01	000	000445	144.14
000527	146.02		000531	146.04
000531	146.04	0000		
000537	146.06	001	000534	146.06

000522 145.34

06/14/74      TABLE OF CONTENTS AND REFERENCES      AUTOFLOW CHART SET - SHEEP  
 CARD ID    PAGE/FIG    NAME      REFERENCES (SOURCE SEQUENCE NO. AND PAGE/BOX)

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(006542)	146.09	6010	(006534)	146.05	
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(006576)	146.13		(006586)	146.17	
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(006591)	146.20		(006594)	146.22	
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(006598)	146.24	623			
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(006678)	147.34		(006680)	147.36	
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(006685)	147.37	240	(006629)	147.05	(006659) 147.23
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(006800)	148.15	2702	(006798)	148.13	
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(006833)	150.13	299	(006799)	148.14	(006800) 148.15    (006802) 148.16

CHART TITLE - NON-PROCEDURAL STATEMENTS

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - FUNCTION JN(IL,IN)

CHART TITLE - NON-PROCEDURAL STATEMENTS

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE MTCAL

(006886) 150.01 MTCAL    (006217) 148.13-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE BHOJT

(006004) 160.01 BHOJT (006070) 150.02-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE RTRID

(006007) 162.01 RTRID (006009) 150.01-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE MTPIN

(006010) 164.01 MTPIN (006071) 150.03-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE DAYBA

(006021) 166.01 DAYBA (001945) 35.03-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE DEACH

(006037) 168.01 DEACH (001582) 35.16-X (006024) 166.01-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE CSECH

(006050) 170.01 CSECH (000413) 9.12-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE PIVOT

(006063) 172.01 PIVOT (000391) 9.09-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE TEE

(006080) 174.01 TEE (000000) 172.01-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE TEL

(006093) 176.01 TEL (006067) 172.02-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE DLPVT

(007006) 178.01 DLPVT (000401) 10.10-X

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CHART TITLE - SUBROUTINE PRIB

(007010) 180.01 PRIB (006213) 140.12-X

CHART TITLE - INTRODUCTORY COMMENTS

CHART TITLE - SUBROUTINE PRIC

(007032) 182.01 PRIC (006204) 140.15-X

CHART TITLE - INTRODUCTORY COMMENTS

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AUTOFLOW CHART SET - SHEEP  
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CHART TITLE - SUBROUTINE PRTH

(007045) 104.01 PRTH      (000431) 9.21-X      (000515) 10.33-X

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CARD ID	PAGE/BOX	
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000023)	2.06	UNRECOGNIZED SYNTAX
000080)	6.14	UNDEFINED - 'WRITHS' EXTERNAL REFERENCE
000507)	10.20	UNDEFINED - 'WRITHS' EXTERNAL REFERENCE
000520)	10.30	UNDEFINED - 'READMS' EXTERNAL REFERENCE
000630)	14.19	UNDEFINED - 'READMS' EXTERNAL REFERENCE
000662)	15.10	UNDEFINED - 'READMS' EXTERNAL REFERENCE
000621)	16.12	UNDEFINED - 'WRITHS' EXTERNAL REFERENCE
001240)	20.31	UNDEFINED - 'READMS' EXTERNAL REFERENCE
001455)	22.24	UNDEFINED - 'WRITHS' EXTERNAL REFERENCE
001480)	23.15	UNDEFINED - 'WRITHS' EXTERNAL REFERENCE
001544)	25.02	UNDEFINED - 'READMS' EXTERNAL REFERENCE
001631)	26.32	UNDEFINED - 'WRITHS' EXTERNAL REFERENCE
001636)	26.34	UNDEFINED - 'WRITHS' EXTERNAL REFERENCE
000610)	132.01	UNDEFINED - 'WRITHS' EXTERNAL REFERENCE
000742)	146.00	UNDEFINED - 'READMS' EXTERNAL REFERENCE

## PROGRAM FLOW CHARTS



06/14/70

AUTOFLEX CHART SET - SHEEP WING AND EMPENNAGE MODULE - PAGE 01

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

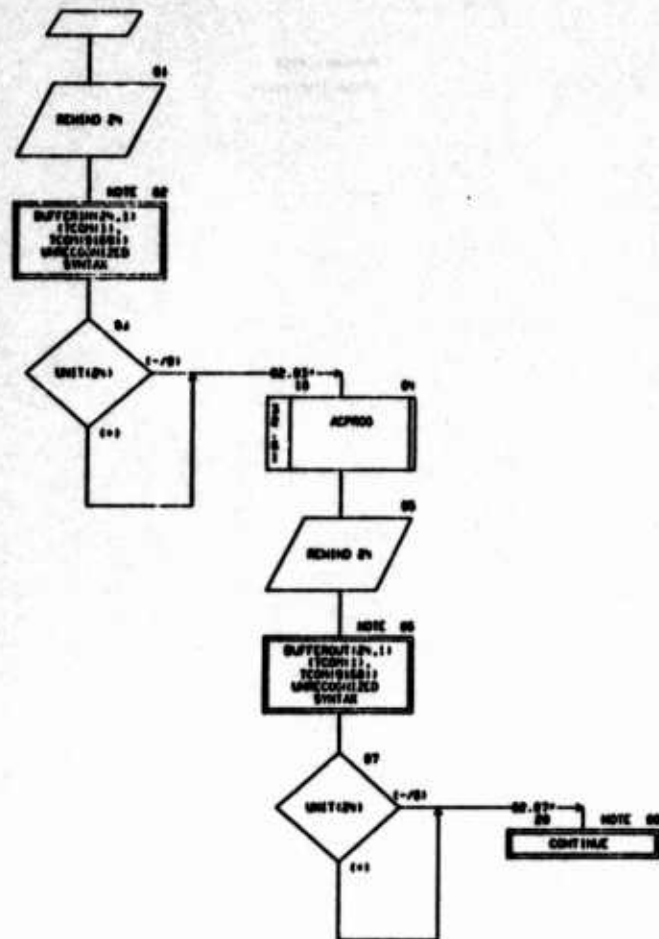
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\*\*\*PROGRAM FOR EIGHTH OVERLAY OF WING/EMPENNAGE MODULE\*\*\*

STRUCTURAL SYNTHESIS/WEIGHT ANALYSIS - ADV CONCEPT DESIGNS

\*\*\*\*\*

CHART TITLE - PROCEDURES



06/16/74

AUTOLIN CHART SET - SHEEP HIND AND DIFFERENCE MODULE - PAGE 03

CHART TITLE - NON-PROCEEDURAL STATEMENTS

PROGRAM CLAY18  
COMMON TCOM1018P1

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AUTOFLOW CHART SET - SWEEP WING AND EMPENNAGE MODULE - PAGE 64

CHART TITLE - INTRODUCTORY CONTENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ATBOPT\*\*\*\*\*

\*\*\*ADV. COMP. TORQUE-BOX SYNTHESIS CONTROL\*\*\*

\*\*\*\*\*

CHART TITLE - SUBROUTINE ATB:PT

ATB:PT

00.11---&gt;

\*\*\*CONTROL  
SUBROUTINE FOR ADV.  
COMPOSITE ANALYSIS\*\*\*  
\*STRESS-DOE  
DESIGN--N/SPAR PLATE  
OR N-PILS\*  
\* OR N/VID  
STRING OR FULL DEPTH  
HINGE/COVER\*

\*\*\*TYPE 10 FOR  
N/SPAR OR FDI  
DESIGNS\*\*\*  
\* PLATES--COVER  
10 = 1 AND SPAN 10 =  
1 OR 2\*  
\* N/PILS--COVER  
10 = 2 AND SPAN 10 =  
1 OR 2\*  
\* FULL DEPTH  
HINGE--COVER 10 = 1 AND  
SPAN 10 = 3\*

MT. CALC. 10=IC 1=  
AREA, 2=AREA AND  
PANEL MT.

01  
10M = 10T

\*\*\*\*SETUP PRINT 10  
FOR PRINT, PRINT, PRINT,  
PRINT\*\*\*\*  
\*\*\*IPA = ND(23) = 10  
FOR PRINT, PRINT.  
1.0=PRINT\*\*\*  
\*\*\*IPB = ND(24) = 10  
FOR PRINT, PRINT.  
1.0=PRINT\*\*\*

02  
IPA = DC(13)  
IPB = DC(13)

03  
ND(11) = ND(1)  
(10/1)

04  
10M = 2

05  
IP(100)

06  
IPA = ND(11)

07  
IP(27)

08  
IPA = ND(11)

09  
IP(27)

10  
IPA = ND(11)

11  
IP(27)

12  
IPA = ND(11)

13  
IP(27)

14  
IPA = ND(11)

15  
IP(27)

16  
IPA = ND(11)

\*\*\*IPA FOR ND(11)\*\*\*

00.03  
01  
IP(27)

02  
IPA = ND(11)

03  
IP(27)

04  
IPA = ND(11)

05  
IP(27)

06  
IPA = ND(11)

07  
IP(27)

08  
IPA = ND(11)

09  
IP(27)

10  
IPA = ND(11)

11  
IP(27)

12  
IPA = ND(11)

13  
IP(27)

14  
IPA = ND(11)

15  
IP(27)

16  
IPA = ND(11)

17  
IP(27)

18  
IPA = ND(11)

19  
IP(27)

20  
IPA = ND(11)

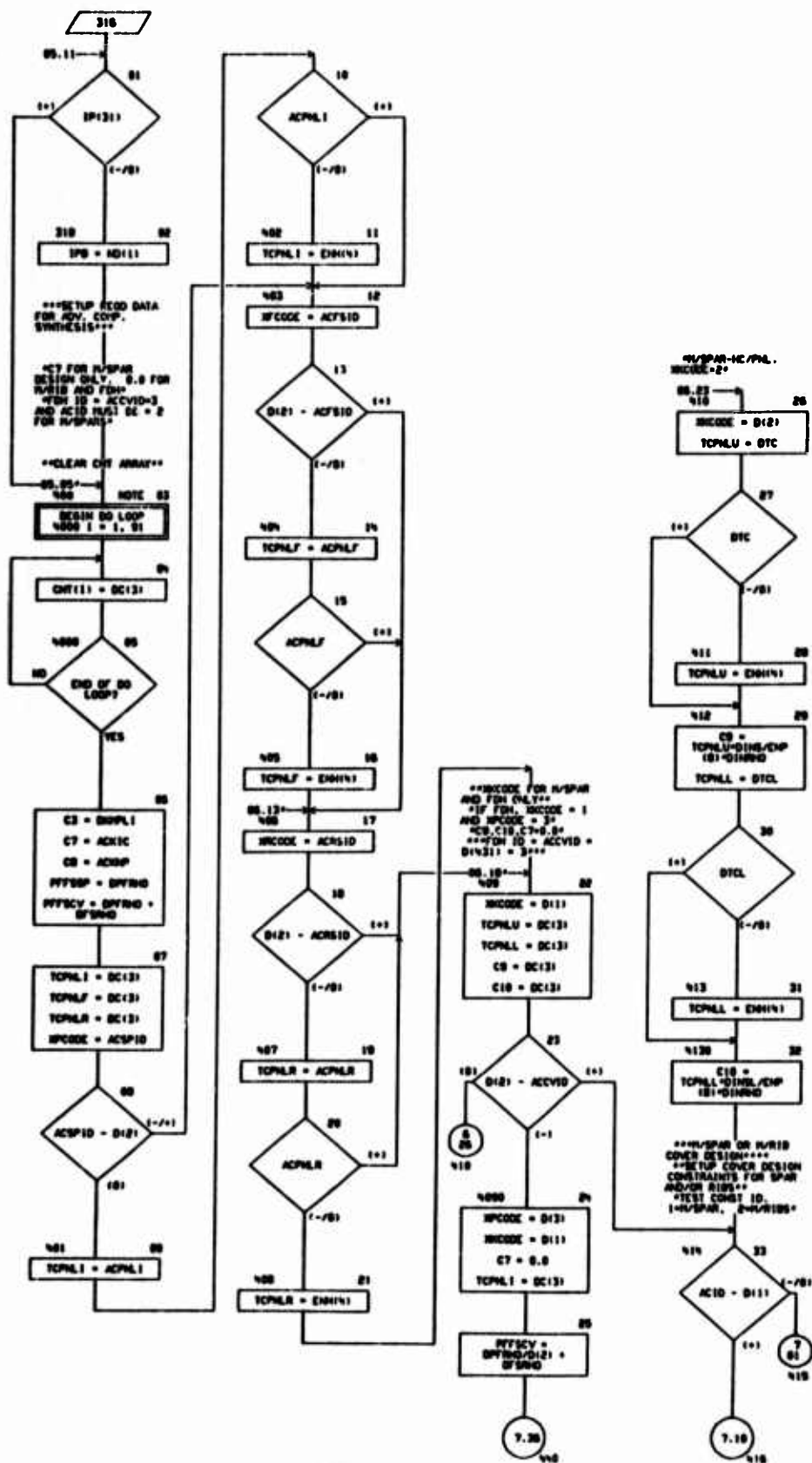
21  
IP(27)

22  
IPA = ND(11)

23  
IP(27)

24  
IPA = ND(11)

CHART TITLE - SUBROUTINE ATR001



DATA FOR M/RID  
QRY  
XSTRJ AND XSTRL  
TYPE OF STRINGER  
UP/LR  
1-1, 2-2, 3-1,  
4-4

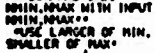
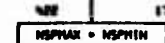
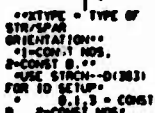


CHART TITLE - SHEROUDINE AIRSPT

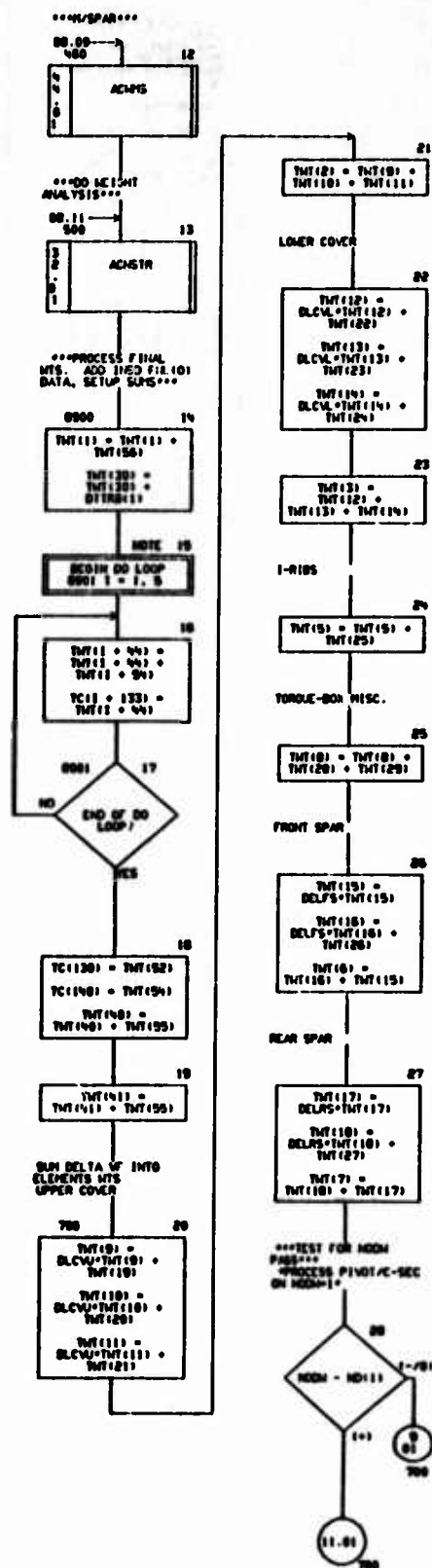
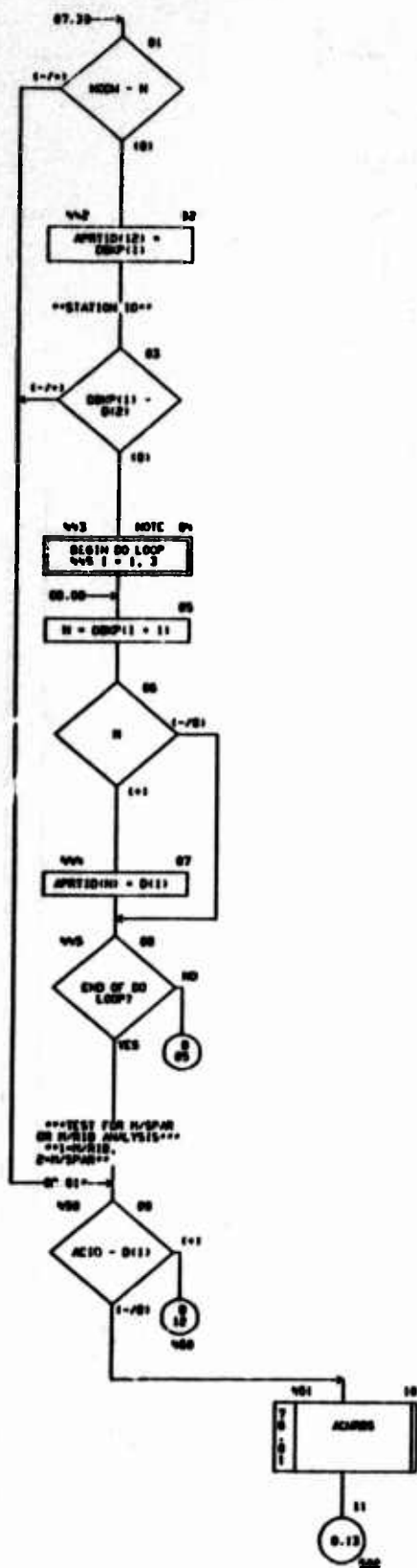




CHART TITLE - SUBROUTINE ATR0PT

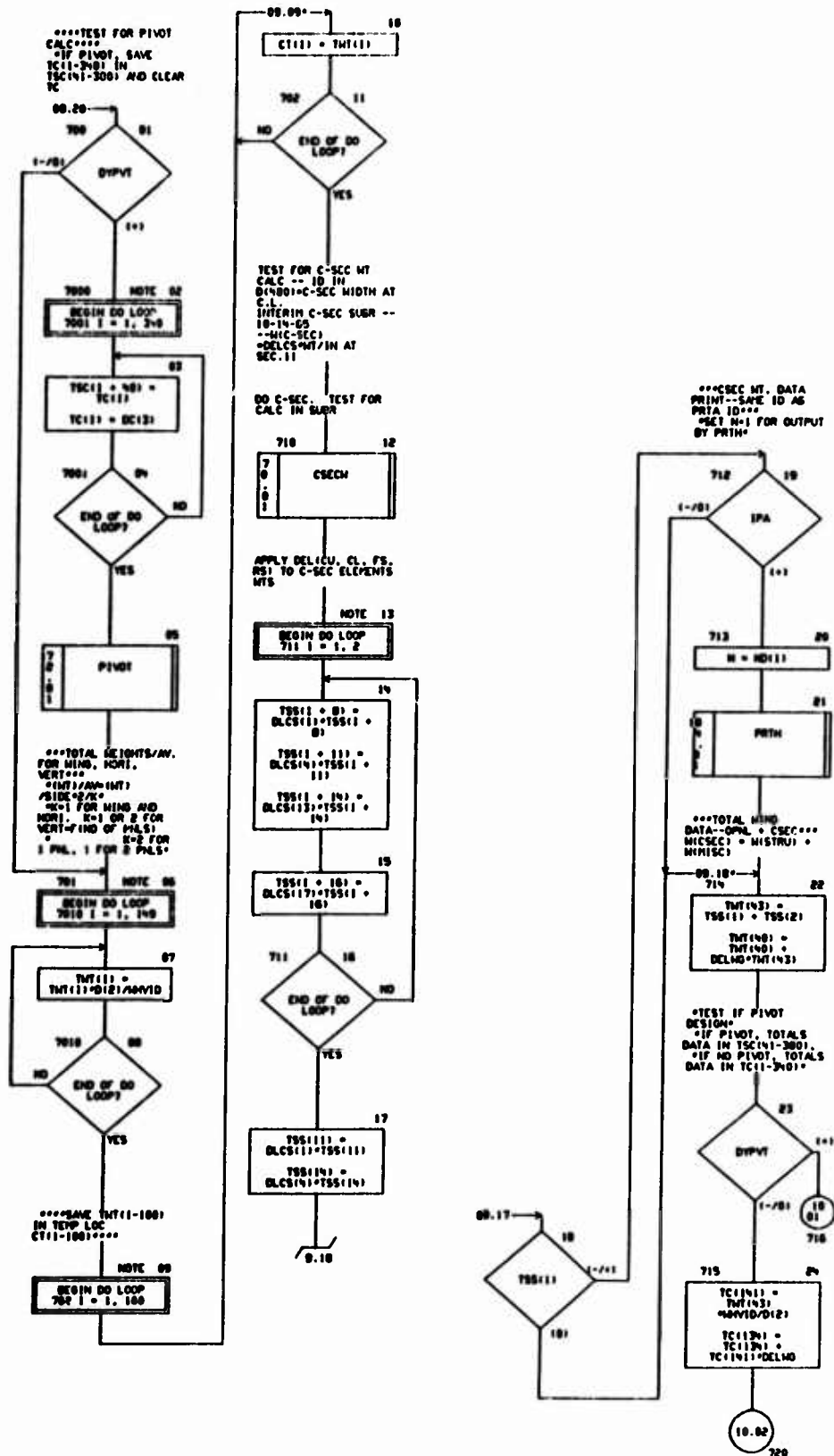
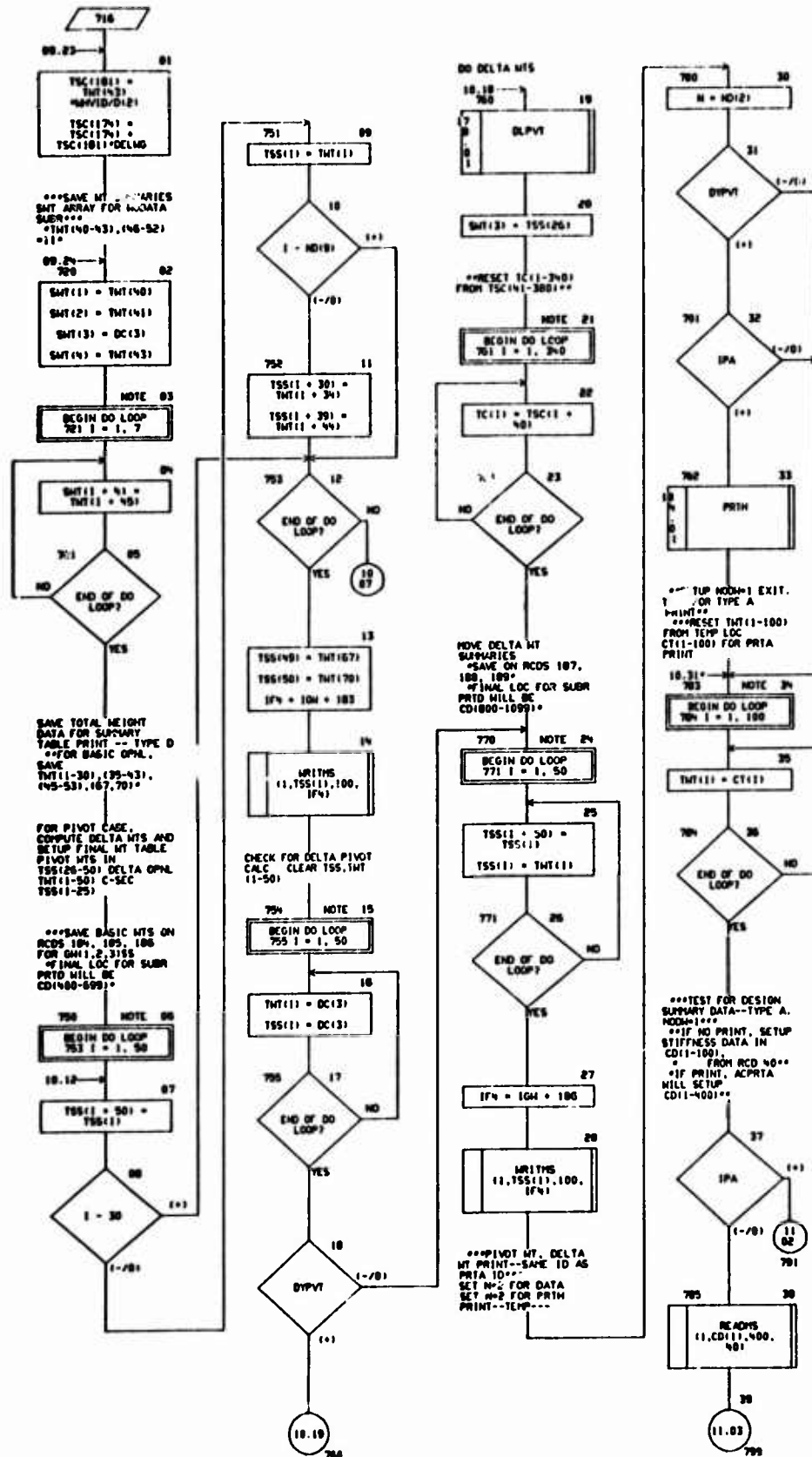


CHART TITLE - SUBROUTINE A100PT



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AUTOFLON CHART SET - SHEEP MIND AND ENTERPAGE MODULE - PAGE 11

CHART TITLE - SUBROUTINE ATC-PT

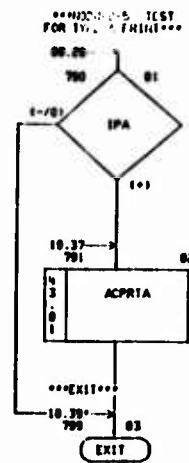


CHART TITLE - NON-PROFESSIONAL STATEMENTS

```

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COMMON /IPRINT/ IP(80)
DIMENSION DC(100),TDC(200),TSC(400),TSS(100),TMT(400),TSEC(300),
TC(400),TT(24),TD(40),
SMT(11),TDM(11),
DITRB(2),DEL(34),
DMP(5),APRTID(12),
EMP(9),EIM(6),CNT(91),
DLS(24)
EQUIVALENCE (DC(1),D(1401)),(TDC(1),T(1341)),(TSC(1),T(1541)),
TSS(1),T(1961)),(TMT(1),CD(1101)),(TSEC(1),CD(1501)),
TTC(1),T(1961)),(TDC(1),T(1621)),(TT(1),T(1317)),
IMVID,T(157),IDYPT,D(2001),IDGPT,D(1399),
ISMT(1),T(1734),ITBM(1),T(1542),IDLC(1),D(1402),IDELM,T(1107),
IDITRB(1),T(1661),IDEL(1),TMT(251),
IDLCW,DEL(1),IDLCV,DEL(1),IDELFS,DEL(13),IDELRS,DEL(17),
IN,ND(30),IPA,ND(23),IPB,ND(24),
INDM,ND(56),IGH,ND(61),IGT,ND(57),IFN,ND(93)
EQUIVALENCE (ACD,D(1430)),(ACCV,D(1431)),
(ACVSTU,D(1432)),(ACVSTL,D(1433)),(ACFDC,D(1434)),(ACSPID,D(1435)),
(ACFSID,D(1436)),(ACRSID,D(1437)),(ACSSID,D(1438)),(SAPAX,D(1399)),
(SAOPN,D(1365)),(SAOPK,D(1366)),(STLH,D(1375)),(SLH,D(1376)),
INSTH,D(1377)),(INSTK,D(1378)),(STYK,D(1379)),(BMIN,D(1300)),
IBMAX,D(1301)),(SAPIN,D(1392)),(STRCH,D(1383)),(STFPH,D(1384)),
(ACKOP,D(1429)),(ACKIC,D(1457)),(CKOPLI,D(1578)),(OPFRMD,D(1470)),
(ACPLI,D(1458)),(ACPLF,D(1459)),(ACPLR,D(1460)),(OPSRMD,D(1597)),
IDTC,D(1462)),(DINS,D(1465)),(IDTL,D(1466)),(IDNSL,D(1467)),
(ENP(1),D(1155)),(ENH(1),D(1154)),(DIRMD,D(1469))
EQUIVALENCE (CNT(1),T(1541)),(XSTPJ,CNT(1)),(XSTRL,CNT(2)),
(BBMIN,CNT(3)),(BRMAX,CNT(4)),(EEMIN,CNT(5)),(BPMAX,CNT(6)),
(BBMAX,CNT(7)),(BBMIN,CNT(8)),(NSPMIN,CNT(17)),(NSPMAX,CNT(18)),
(XTYPE,CNT(10)),(XCODE,CNT(19)),(XPCODE,CNT(20)),
(XFCODE,CNT(27)),(XRCODE,CNT(28)),
(C3,CNT(13)),(C7,CNT(122)),(C8,CNT(23)),(C9,CNT(34)),(C10,CNT(35)),
(TCPMLU,CNT(29)),(TCPMLL,CNT(30)),(TCPMLI,CNT(31)),
(TCPMLF,CNT(32)),(TCPMLR,CNT(33)),
(PFFSCV,CT(2047)),(PFFSSP,CT(2048)),
(BFMIN,CNT(41)),(BFMAX,CNT(42)),(SLUMIN,CNT(8)),
(SLLMIN,CNT(19)),(SLUMIN,CNT(15)),(STLMIN,CNT(16)),
(OSLUM,D(1440)),(OSLML,D(1441)),(OSTLU,D(1442)),(OSTLM,D(1443)),
(IBM(1),D(1574)),(APRTID(1),T(1073))
REAL NSPMIN,NSPMAX

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AUTOFLOW CHART SET - SHEEP WINDING AND EFFICIENCY MODULE - PAGE 13

CHART TITLE - INTRODUCTORY COMMENTS

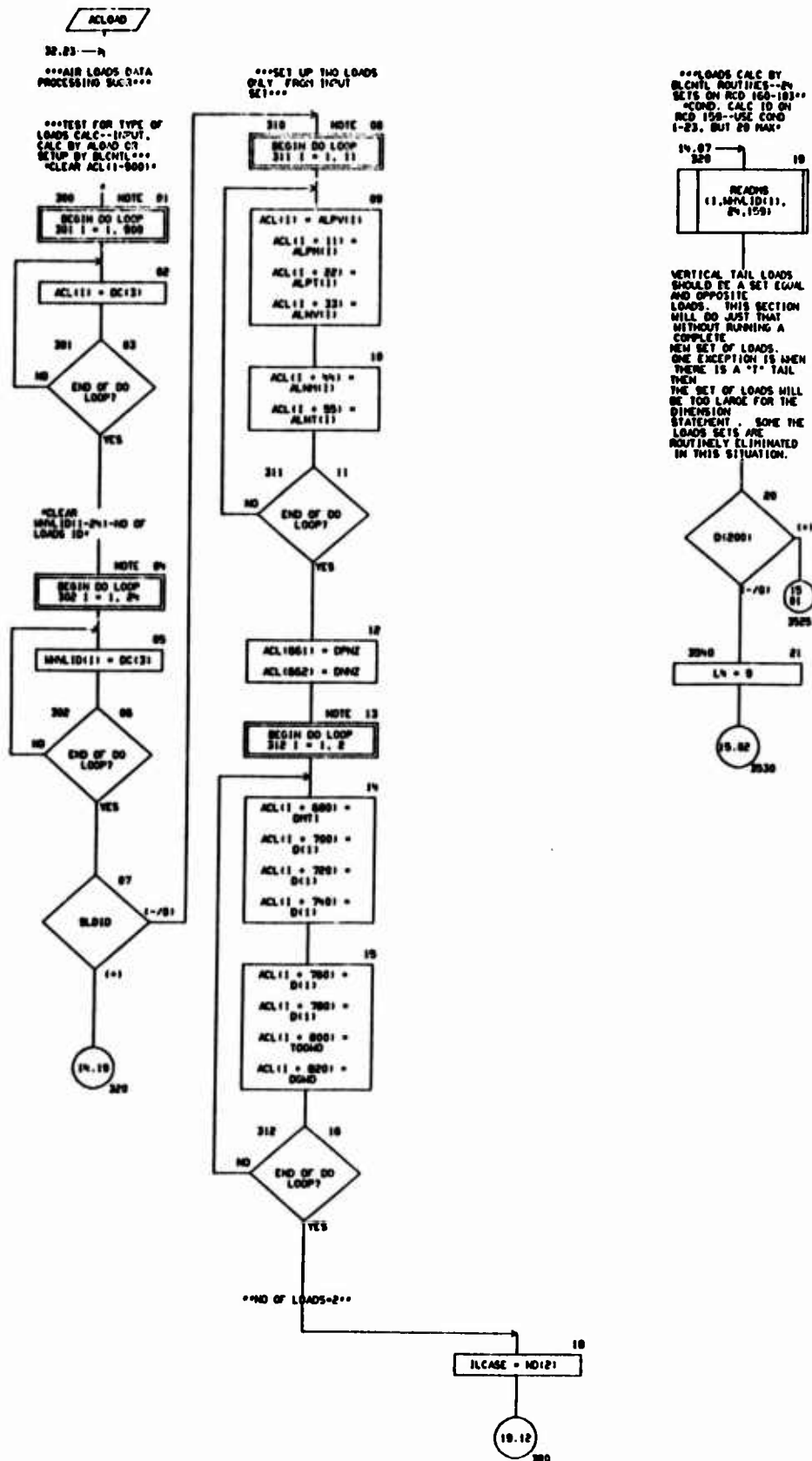
\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ACLOAD\*\*\*\*\*

\*\*\*DESIGN LOAD DATA PROCESS - ADV. COMP. ANALYSIS\*\*\*

\*\*\*\*\*

CHART TITLE - SUBROUTINE ACLOAD



```

graph TD
    Start([START]) --> 01
    01[14.20 -> LN = 11] --> 02
    02[14.21 -> 3550 ILCASE = DC(3)] --> 03
    03[NOTE 03  
BEGIN DO LOOP  
3750 NV = 1.23] --> 04
    04[19.11 -> N = 361] --> 05
    05{VTID} --> 06
    06{3600 D(357)} --> 07
    07[3565 N = 2* - NV] --> 08
    08{3580 INVALID(N)} --> 09
    09[321 ILCASE = ILCASE + NO(1)  
IFL = N + 150] --> 10
    10[READS  
(1, MDO(1), 200,  
IFL)] --> 11
    11["*TEST FOR TAILS AND  
MOVE LOC DATA TO  
WIND LOC IF TAILS*"] --> 12
    12[CHECK = 0.0  
VERT = 0.0] --> 13
    13 --> 14
    14{12 VTID} --> 15
    15[3211 VERT = 1.0] --> 16
    16[3210 N = 130] --> 17
    17{15 VTID} --> 18
    18[322 N = 63] --> 19
    19[NOTE 17  
BEGIN DO LOOP  
324 I = 1.44] --> 20
    20[10 J = K + 1  
MDO(I + 30) =  
MDO(J)] --> 21
    21{24 10 END OF DO LOOP?} --> 22
    22{20 VTID} --> 23
    23{21 D(357)} --> 24
    24 --> 14
    22 --> 13
    23 --> 18
    24 --> 19
    
```

CHART TITLE - SUBJECTIVE ASLOAD

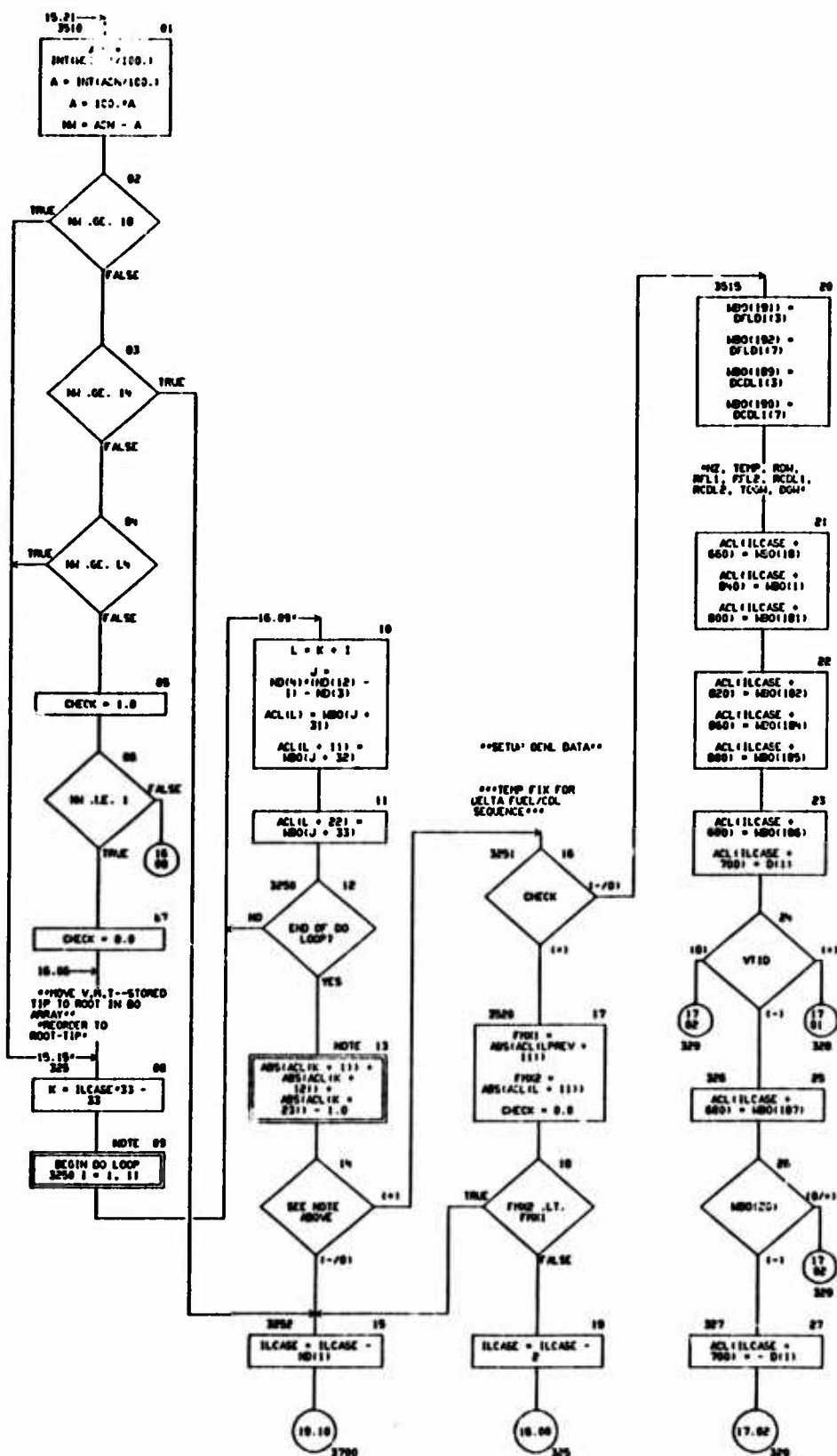




CHART TITLE - SUBROUTINE ACLOAD

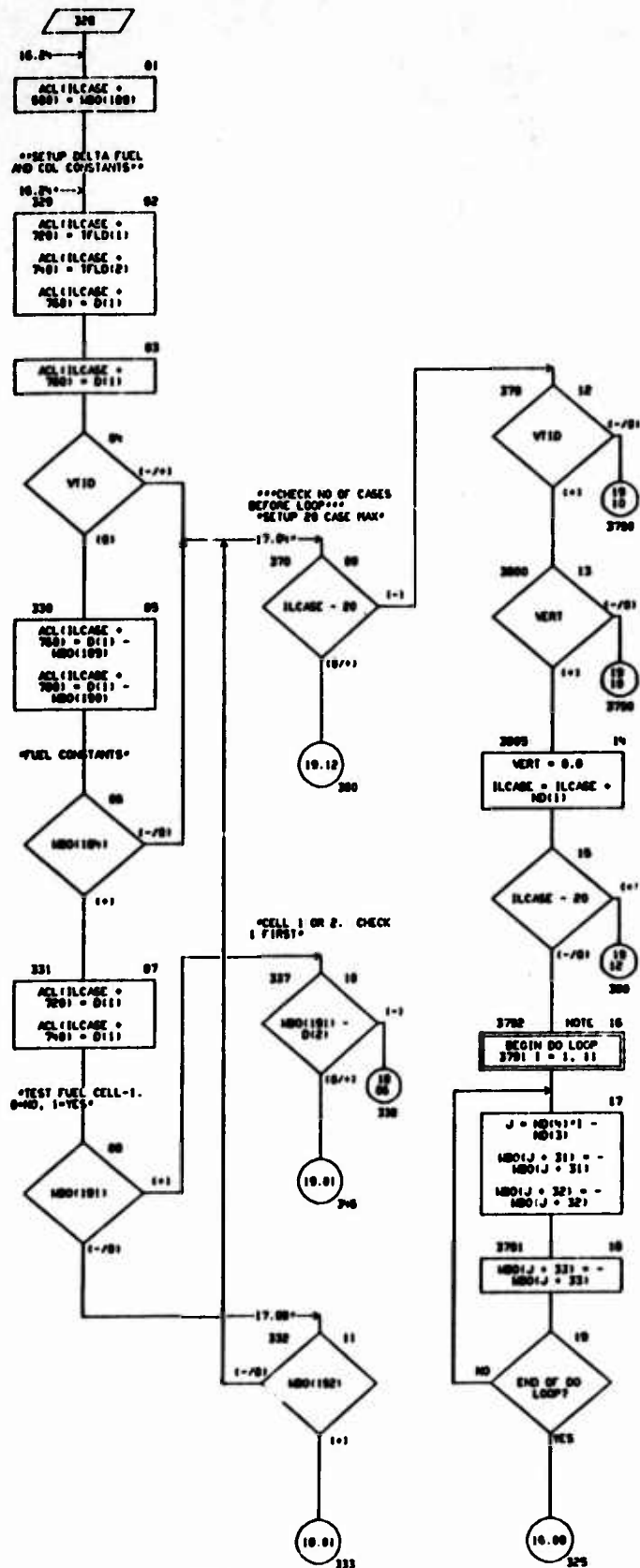
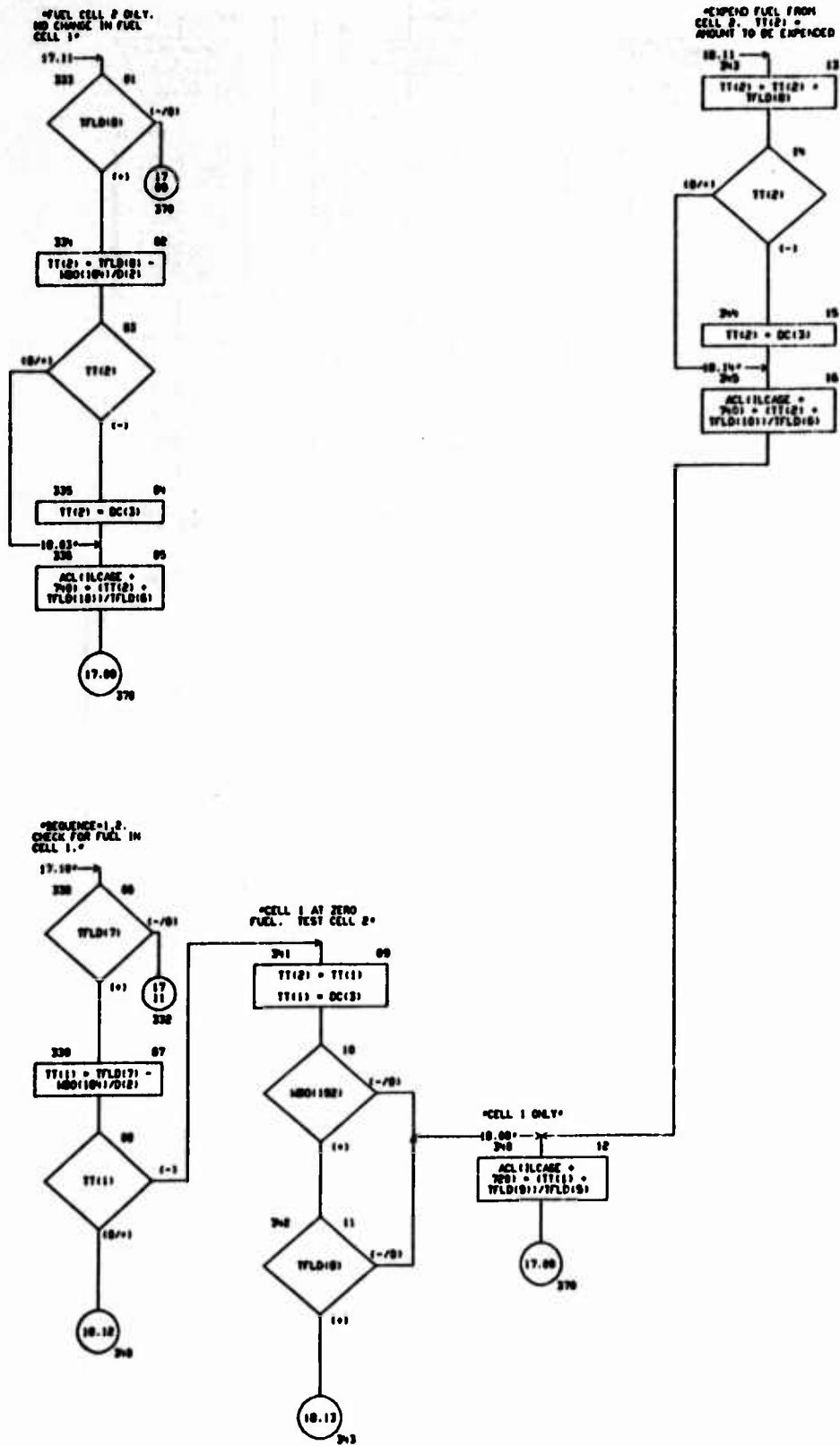


CHART TITLE - SUBROUTINE ACLOAD



```

graph TD
    Start([START]) --> 10
    10 --> 11[LPREV = ILCASE * 33 - 32]
    11 --> 12{END OF DO LOOP?}
    12 -- NO --> 15[15 04]
    12 -- YES --> 13[13 10]
    13 --> 14[14 10]
    14 --> 15[15 04]
    15 --> 16[16 10]
    16 --> 17[17 10]
    17 --> 18{18 01}
    18 -- 1-70 --> 19[19 06]
    19 --> 20[20 06]
    20 --> 21{21 01}
    21 -- 1-70 --> 22[22 06]
    22 --> 23[23 06]
    23 --> 24[24 06]
    24 --> 25[25 06]
    25 --> 26[26 06]
    26 --> 27[27 06]
    27 --> 28[28 06]
    28 --> 29[29 06]
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    99 --> 100[100 06]
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    195 --> 196[196 06]
    196 --> 197[197 06]
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    198 --> 199[199 06]
    199 --> 200[200 06]
    200 --> 201[201 06]
    201 --> 202[202 06]
    202 --> 203[203 06]
    203 --> 204[204 06]
    204 --> 205[205 06]
    205 --> 2
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CHART TITLE - NON-PROCEEDURAL STATEMENTS

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COMMON T(200),D(2000),CD(2000),ND(100),TW(900),CT(2040)
COMMON /IPRINT/ IP(60)
DIMENSION DC(100),TSEC(300),TODH(11),TT(24),
PHZ(11),VPHZ(11),VHZ(11),ZHZ(11),
ALPV(11),ALPH(11),ALNH(11),ALNM(11),
CAL(12), TR(17),T0(300),TAC(10),CCLO(9),SIND(6),COS(6),
PHZT(11),ZINT(11),ALPT(11),ALNT(11),
WKL(12),HBO(200),ACL(900),TEMP(20),
WLD(10),
DFLD(10),DCOL(10),
VSTR(11)
EQUIVALENCE (DC(1),D(140)), (TSEC(1),CD(150)),(TODH(1),T(430)),
(TT(1),T(1317)),(VSTR(1),TSEC(166)),(DGH(1),D(105)),
(VPHZ,D(85)),(ZHZ,D(86)),(DALV,D(255)),(DALCP,D(256)),
(DCPD,D(257)),(DCPHL,D(233)),(DEXPV,D(232)),
(ALOS,D(235)),(ALOR,D(236)),(ALOR,D(237)),(ALGB,D(238)),
(PHZN,D(260)),(VPHZ(1),D(607)),(VHZ(1),D(630)),(ZHZ(1),D(709)),
(TAC(1),T(122)),(CCLO(1),T(131)),(SIND(1),T(140)),
(ALPV(1),T(154)),(ALPH(1),T(555)),(ALNV(1),T(576)),(ALNM(1),T(507)),
(DHOL,D(332))
EQUIVALENCE (BOZ,T(12)),(BS1,T(15)),(BXP,T(95)),(CR,T(152)),
(CTIP,T(37)),(TAVAC,T(38)),(HARE,D(240)),(DPCEA,D(127)),
(CAL(1),D(220)), (TR(1),T(1300)),(T0(1),T(100)),
(VPHZ(1),D(1010)),(ZINT(1),D(1030)),
(ALPT(1),T(877)),(ALNT(1),T(880)),
(COSE(1),T(146)),(COTEA,T(152)),(ALREF,D(239)),
(NPAGE,ND(95)),(NSEC,ND(60)),
(IN,ND(31)),(IK,ND(30)),(I,ND(29)),(LID,ND(94)),(NCASE,ND(60))
EQUIVALENCE (HMLID(1),CD(532)),(HBO(1),CD(556)),
(WLD(1),D(205)),(TEMP(1),CT(2003)),
(DPHZ,T(20)),(DGHZ,T(21)),(DGH(1),D(105)),(TODH,D(100)),
(DHNT,D(250)),(VTID,D(200)),
(WLD(1),T(631)),(TT(1),T(1317)),
(DFLD(1),D(159)),(DCOL(1),D(167)),
(ACL(1),CT(1)),(ILCASE,ND(4))
303 FORMAT (10H) CASE 14,725,96H---BASIC LIMIT AIRLOAD DATA---ADV C
OPPOSITE ANALYSIS---,T100,WPAGE,14,7710CHD COND TOGH
BOH DEL-FL DEL-AL HZ TEMP RDH RFL RFL
2 RCOL1 RCOL2 )
304 FORMAT (F8.1,F11.1,F10.1,F8.3,F8.1,F8.4)
307 FORMAT (5H) ---DESIGN LOADS SUMMARY---ACL ARRAY---IP 20---,
APB ACL )
308 FORMAT (1H 14,F11.1,F13.1,F12.1,F11.1,F13.1,F12.1)

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CHART TITLE - INTRODUCTORY CONTENTS

.....

\*\*\*\*\*SUBROUTINE TEMPC\*\*\*\*\*

\*\*\*MATERIAL PROPERTIES EVAL FOR ADV. COMP. MATERIALS\*\*\*

.....

.....

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graph TD
    Start([START]) --> Temp[TEMP]
    Temp --> Note13[NOTE 13]
    Note13 --> Continue1[CONTINUE]
    Continue1 --> Interp[INTERPOLATE TO FIND PROPERTIES]
    Interp --> Note14[NOTE 14]
    Note14 --> CalcML[ML = INT(TEMP/LCASE) / 100.0  
F = TEMP/LCASE / 100.0 - FLOATING  
NL = NL + 1  
NU = NL + 1]
    CalcML --> Note15[NOTE 15]
    Note15 --> BeginLoop1[BEGIN DO LOOP  
I = 1, 3]
    BeginLoop1 --> Note16[NOTE 16]
    Note16 --> Prop1[PROPI = EMP(I) * TCIN(I) + F * (TCIN(I) - TCIN(I) / 100.0)]
    Prop1 --> Note17[NOTE 17]
    Note17 --> EndLoop1{END OF DO LOOP?}
    EndLoop1 -- NO --> Note18[NOTE 18]
    EndLoop1 -- YES --> Note18
    Note18 --> Continue2[CONTINUE]
    Continue2 --> Note19[NOTE 19]
    Note19 --> CalcLC[CLCASE = PROPI]
    CalcLC --> Note20[NOTE 20]
    Note20 --> CalcProp[DO = 1, - PROPI  
H = PROPI * H * PROPI]
    CalcProp --> Note21[NOTE 21]
    Note21 --> CalcEndLC[END1, LCASE = PROPI / X  
END2, LCASE = PROPI / X  
END3, LCASE = PROPI * END2, LCASE]
    CalcEndLC --> Note22[NOTE 22]
    Note22 --> CalcEndProp[END1, LCASE = .25 * (END1, LCASE) + END2, LCASE + 2 * (END3, LCASE) + 2 * PROPI]
    CalcEndProp --> Note23[NOTE 23]
    Note23 --> EndMain([END])

    Temp --> Note24[NOTE 24]
    Note24 --> Emp1[EMP(I) = .01, 0.0]
    Emp1 --> Note25[NOTE 25]
    Note25 --> TestPrint{TEST FOR MATL PRINT--(P(I))}
    TestPrint --> Note26[NOTE 26]
    Note26 --> Emp2[EMP(I) = -EMP(I)]
    Emp2 --> Note27[NOTE 27]
    Note27 --> Print1[/WRITE TO DEV 6 VIA FORMAT 263 FROM THE LIST/]
    Print1 --> Note28[NOTE 28]
    Note28 --> ListLC[LIST = LCASE]
    ListLC --> Note29[NOTE 29]
    Note29 --> Print2[/WRITE TO DEV 6 VIA FORMAT 263/]
    Print2 --> Note30[NOTE 30]
    Note30 --> Continue3[CONTINUE]
    Continue3 --> Note31[NOTE 31]
    Note31 --> BeginLoop2[BEGIN DO LOOP  
J = 1, 3]
    BeginLoop2 --> Note32[NOTE 32]
    Note32 --> TempLC{TEMP/LCASE - LC. TO 0}
    TempLC -- TRUE --> Note33[NOTE 33]
    Note33 --> Note13
    TempLC -- FALSE --> Note34[NOTE 34]
    Note34 --> TempDeg[IF TEMP = DEGREES, PROPERTIES ARE THOSE OF ROOM TEMPERATURE]
    TempDeg --> Note35[NOTE 35]
    Note35 --> BeginLoop3[BEGIN DO LOOP  
J = 1, 3]
    BeginLoop3 --> Note36[NOTE 36]
    Note36 --> Prop2[PROPI = EMP(I)]
    Prop2 --> Note37[NOTE 37]
    Note37 --> EndLoop2{END OF DO LOOP?}
    EndLoop2 -- NO --> Note38[NOTE 38]
    EndLoop2 -- YES --> Note39[NOTE 39]
    Note39 --> Note13

```

```

graph TD
    00((00)) --> 01[01  
END(I,LCASE) =  
PROP(I)*2.*ENP(I)  
END(I,LCASE) =  
PROP(I)*2.*ENP(I)  
END(I,LCASE) =  
PROP(I)*4.*ENP(I)]
    01 --> 02[02  
**BUILDING CONSTANT  
FOR STR**  
END(I,LCASE) =  
PI/12.0*PI*ISORT  
END(I,LCASE) =  
END(I,LCASE) +  
END(I,LCASE) +  
2.0*GILCASE(I)]
    02 --> 03[03  
*TEST PRIME*]
    03 --> 04{04  
IP(I)}
    04 -- NO --> 05[/0/]
    04 -- YES --> 05
    05 --> 06[/0/]
    06 --> 07[/0/]
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    2
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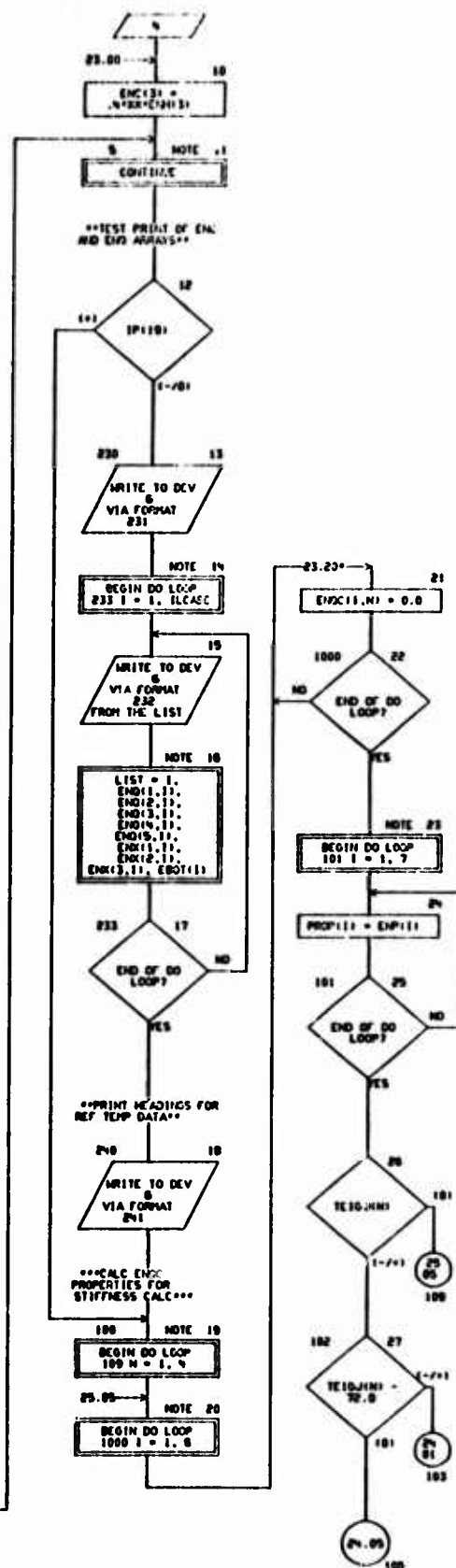
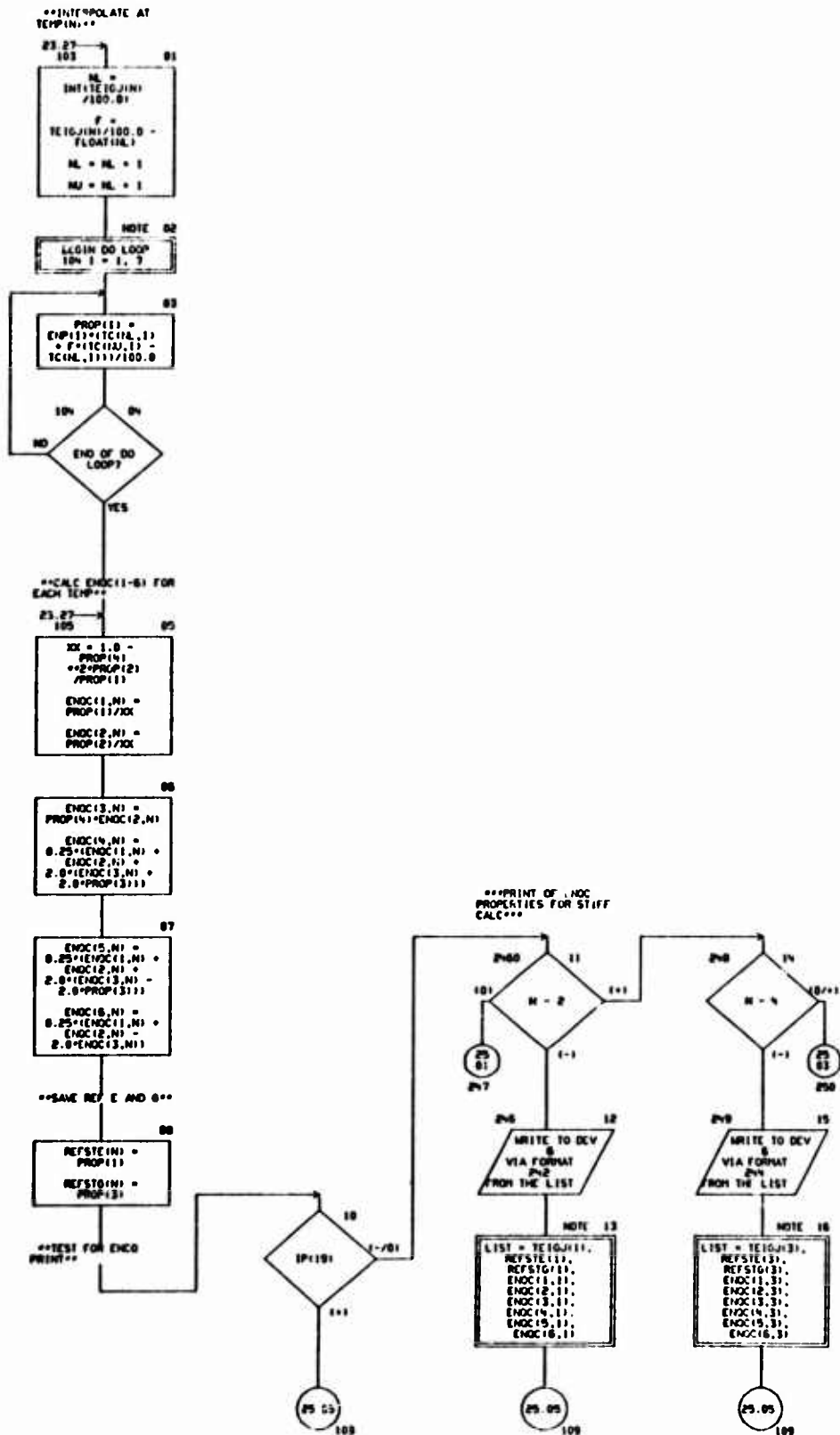


CHART TITLE - SUBROUTINE TEMP





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graph TD
    2411[24.11] --> 243[WRITE TO DEV<br/>VIA FORMAT<br/>243<br/>FROM THE LIST]
    243 --- 242[NOTE 242<br/>LIST = TELIG(2),<br/>REFSG(2),<br/>ENCG1(2),<br/>ENCG2(2),<br/>ENCG3(2),<br/>ENCG4(2),<br/>ENCG5(2),<br/>ENCG6(2),<br/>ENCG7(2),<br/>ENCG8(2),<br/>ENCG9(2),<br/>ENCG10(2),<br/>ENCG11(2),<br/>ENCG12(2),<br/>ENCG13(2),<br/>ENCG14(2),<br/>ENCG15(2),<br/>ENCG16(2)]
    243 --> 2500((25.00))
  
```

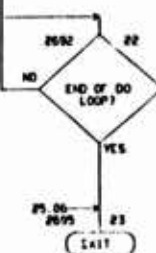
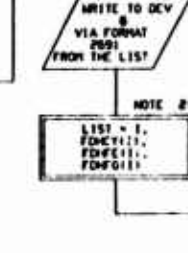
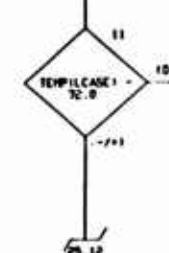
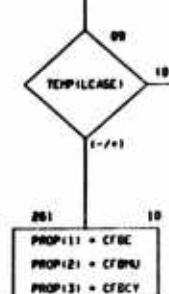
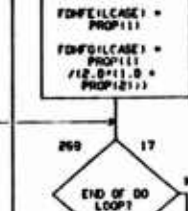
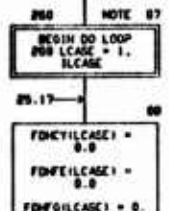
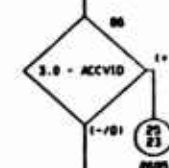
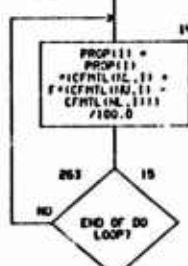
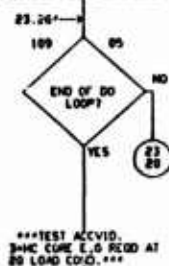


CHART TITLE - NON-PROCEEDURAL STATEMENTS

```

COMMON T(160)
COMMON /IPRINT/ IP(80)
DIMENSION D(2000),CD(2000),ND(100),TH(900),CT(2040),TH(1400),
ENH(6),EMP(8),
PROP(7),TEF(120),TC(5,7),G(20),
ENDC(6,4),TEIG(14),REFSTC(4),REFSTG(4),
CFHTL(5,3),FDHCY(20),FDHFE(20),FDHFG(20),
EBOT(20),
ENC(3),END(5,20),ENK(3,20)
EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(6121)),
(TH(1),T(6221)),(CT(1),T(721)),(TH(1),CD(1101)),
(EMP(1),D(1155)),(ENH(1),D(1164)),(TC(1,1),D(1170)),
(TEMP(1),CT(2001)),(PROP(1),T(1300)),
(ENK(1,1),TH(601)),(ENK(1,1),TH(701)),
(ENC(1),CT(2043)),(G(1),CT(2023)),
(ENOC(1,1),TH(701)),(TEIG(1),TH(703)),
(REFSTC(1),TH(811)),(REFSTG(1),TH(815)),
(INCASE,ND(60)),
(ILCASE,ND(41)),(ND(1),T(6121))
EQUIVALENCE (CFHTL(1,1),D(1500)),(CFHCU,D(1595)),(CFBCY,D(1565)),
(CFBC,ENH(21)),(CFBG,ENH(31)),
(ACCV(1),D(431)),
(EBOT(1),TH(810)),(PI,D(1151)),
(FDHCY(1),TH(841)),(FDHFE(1),TH(861)),(FDHFG(1),TH(881))
202 FORMAT (10H1 CASE,14,62H ---TORQUE-BOX MATERIAL DATA---AD
V. COMPOSITE DESIGN---,6X,20H** TEMP - IP(18) **)
203 FORMAT (80H0 LOAD ID TEMP. EL ET OXY
MARY FTU FCU FSU )
204 FORMAT (7X,12,1X,F0.1,F12.1,2F11.1,F7.4,2F10.1,F9.1)
231 FORMAT (110H0 LOAD ID ENK(1) ENK(2) ENK(3) ENK(4)
ENK(5) ENK(1) ENK(2) ENK(3) E(BOT) )
232 FORMAT (7X,12,1X,F12.1,F10.1,F10.1,2F11.1,1X,3F10.1,F12.1)
241 FORMAT (62H0 ---ENDC PROPERTIES FOR STIFFNESS CALCULATI
ONS---//110H ITEM TEMP. EL OXY ENOC(
1) ENOC(2) ENOC(3) ENOC(4) ENOC(5) ENOC(6) )
242 FORMAT (12H ST. REF. ,F7.1,3F12.1,F11.1,F10.1,3F11.1)
243 FORMAT (12H FLUT. REF.,F7.1,3F12.1,F11.1,F10.1,3F11.1)
244 FORMAT (12H FLUT/OPTH.,F7.1,3F12.1,F11.1,F10.1,3F11.1)
245 FORMAT (12H FLEX/LOADS,F7.1,3F12.1,F11.1,F10.1,3F11.1)
2600 FORMAT (30H0 ***HONEYCOMB CORE PROPERTIES*** )
2601 FORMAT (4X,12,3C16.0)

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06/14/74

AUTOFLOW CHART 101 - 5.000 - WINDS AND EMERGENCY PROCEED - PAGE 27

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ALOAD\*\*\*\*\*

\*\*\*NET ULTIMATE LOADS EVALUATION - ACFT. COMP. ANALYSIS\*\*\*

\*\*\*\*\*

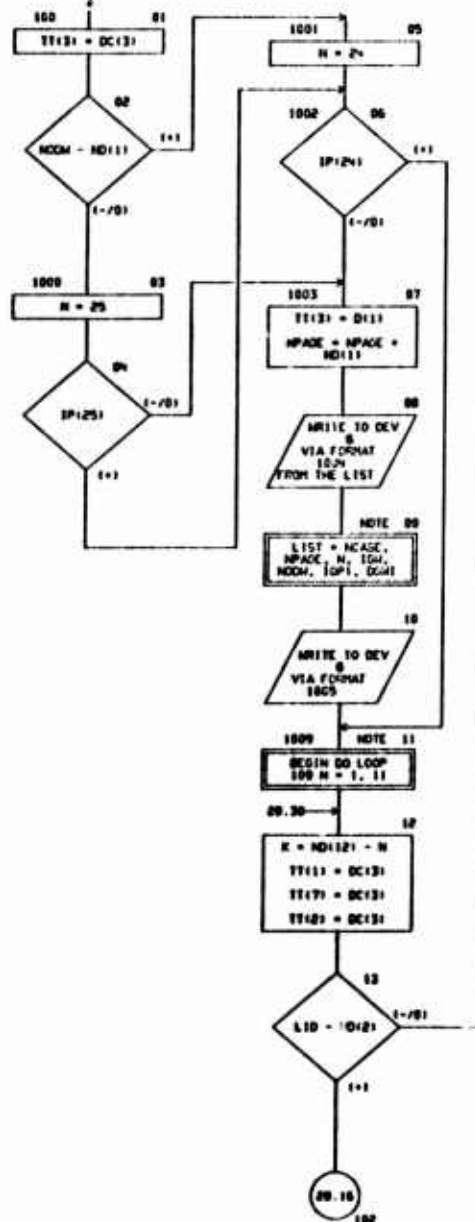
CHART TITLE - SUBROUTINE AALC00

**AALC00**  
 35.07—N  
 \*\*\*\*\*COMPOSITE  
 STRUCTURE ANALYSIS  
 VERSION OF USER  
 VCL\*\*\*\*\*  
 \*\*\*\*\*DESIGNED TO  
 EVALUATE UP TO 20  
 LOAD CASES\*\*\*\*\*

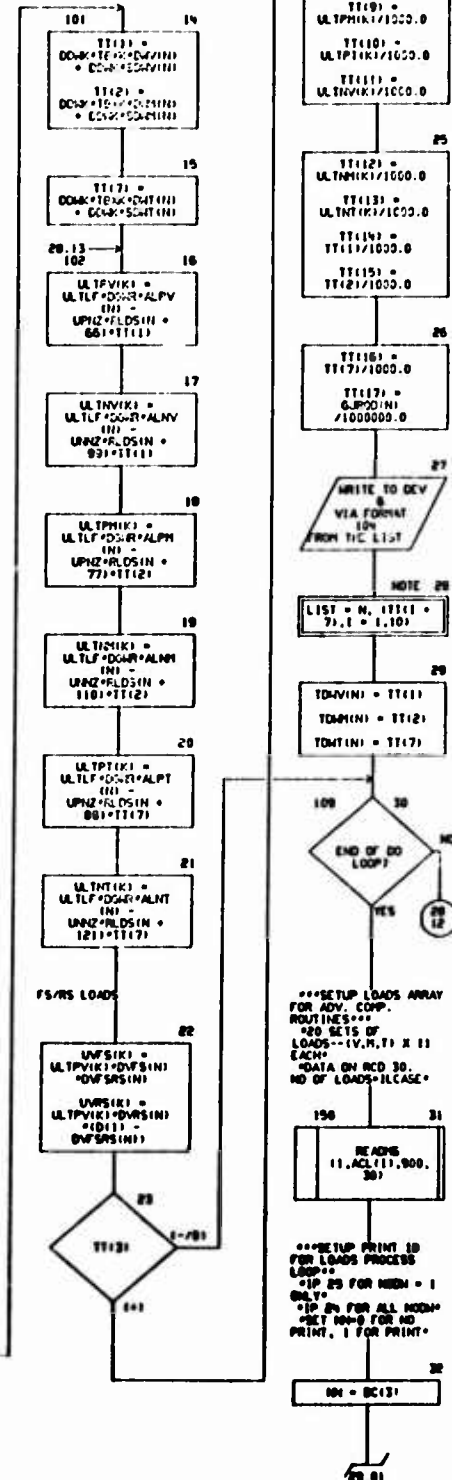
\*\*\*SET ULT DESIGN  
 LOADS CALC SUG\*\*\*

\*\*\*LID = TYPE OF  
 LOAD SET ID\*\*\*  
 \*1 = GROSS, CALC\*  
 \*2 = GROSS, INPUT\*  
 \*3 = INPUT, NET\*

\*\*\*CHECK BY PRINT\*\*\*  
 \*IP 25 FOR NOCM = 1  
 ONLY\*  
 \*IP 24 FOR ALL NOCM\*  
 \*SET TT(1) TO 0 FOR  
 NO PRINT, 1 FOR  
 PRINT\*



\*\*\*PRINT ON TT(1)=1.0\*  
 \*\*SETUP HERE\*\*  
 DATA\*\*



1998

CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T(200),D(200),CD(200),ND(100),TM(300),CT(2040)
COMMON /IFRINT/ IP(100)
DIMENSION DC(100),TT(24),TSEC(300),
ALPV(11),ALPH(11),ALPT(11),ALNV(11),ALNM(11),ALNT(11),
TDM(11),ULTP(11),ULTN(11),
DM(11),DM(11),DM(11),DM(11),DM(11),DM(11),DM(11),
UMS(11),UMS(11),DM(11),DM(11),
TDM(11),TDM(11),TDM(11),
BJRD(11),DMRS(11),
RLDS(132),
ULTPV(11),ULTPH(11),ULTNV(11),ULTNH(11)
DIMENSION ACL(50),ACVHT(60),ACLT(66),
STHV(11),STPH(11),STHT(11),
FLV(11),FLM(11),FLT(11),FLV(11),FLM(11),FLT(11),
COLV(11),COLM(11),COLT(11),COLV(11),COLM(11),COLT(11),
COLV(11),COLM(11),COLT(11)
EQUIVALENCE (DC(11),D(140)),(UPH2,D(205)),(UW2,D(206)),
(ULTLF,D(122)),(TT(1),T(137)),(TSEC(1),CD(150)),
(ALPV(1),T(594)),(ALPH(1),T(565)),(ALPT(1),T(877)),(ALNV(1),T(576)),
(ALNM(1),T(587)),(ALNT(1),T(888)),(TDM(1),T(430)),
(DM(1),T(598)),(DM(1),T(609)),(DM(1),T(620)),
(ULTPH(1),TSEC(1)),(ULTPV(1),TSEC(12)),(ULTNV(1),TSEC(111)),(ULTNH(1),
TSEC(122)),(BJRD(1),T(668)),(DM(1),T(29)),
(DM(1),TDM(2)),(DM(1),TDM(3)),(DM(1),TDM(4)),
(INCASE,ND(60)),(INCD4,ND(56)),(IN,ND(161)),(IOP1,ND(182)),
(INPAGE,ND(85)),(ILID,ND(94)),(IN,ND(130)),(IK,ND(131))
EQUIVALENCE (UMS(1),TSEC(23)),(UMS(1),TSEC(34)),
(ULTP(1),TSEC(144)),(ULTN(1),TSEC(155)),
(DM(1),T(844)),(DM(1),T(855)),(DM(1),T(866)),
(RLDS(1),CD(400)),
(TDM(1),CD(1968)),(TDM(1),CD(1878)),(TDM(1),CD(1998)),
(DMRS(1),CD(1824)),(DMRS(1),D(1842)),(DMRS(1),D(1853))
EQUIVALENCE (ACL(1),CT(1)),(ACVHT(1),CT(132)),(ACLT(1),CD(532)),
(STHV(1),T(81)),(STPH(1),T(822)),(STHT(1),T(833)),
(FLV(1),T(445)),(FLM(1),T(456)),(FLT(1),T(467)),
(FLV(1),T(478)),(FLM(1),T(488)),(FLT(1),T(499)),
(COLV(1),T(309)),(COLM(1),T(320)),(COLT(1),T(331)),
(COLV(1),T(342)),(COLM(1),T(353)),(COLT(1),T(364)),
(COLV(1),T(375)),(COLM(1),T(386)),(COLT(1),T(397)),
(TDM(1),T(430)),(COLM3,TDM(15)),
(ILCASE,ND(41))
1004 FORMAT (10H1 CASE14,10X,4H14---DESIGN LOADS/1000 AND RECD GJ/I
,000,000--- ,20X,4HPAGE14, /10H0 IP=12,6H 10H=11,7H N
ODM=11,7H IOP1=11,6H DDM=FB.1)
1005 FORMAT (10H10 STA +V(ULT) +M(ULT) +T(ULT) -V(ULT) -M(ULT)
-T(ULT) VCH(10) DM(10) TDM(10) GJ(RECD) )
104 FORMAT (10X,12,F10.3,F11.2,F10.2,F9.3,F10.2,F10.2,F9.3,F10.2,F10
.2,F12.3)
106 FORMAT (14H0 COND. NO.FB.1, /10H0 STA V(ULT) M(ULT)
T(ULT) )
107 FORMAT (4X,13,F11.1,F13.1,F12.1,4X,13,F11.1,F13.1,F12.1)
1070 FORMAT (4X,13,F11.1,F13.1,F12.1)

```

08/14/74

AUTOFLOW CHART SET - SHEEP NINO AND EMERGENCY MODULE - PAGE 31

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ACPRG\*\*\*\*\*

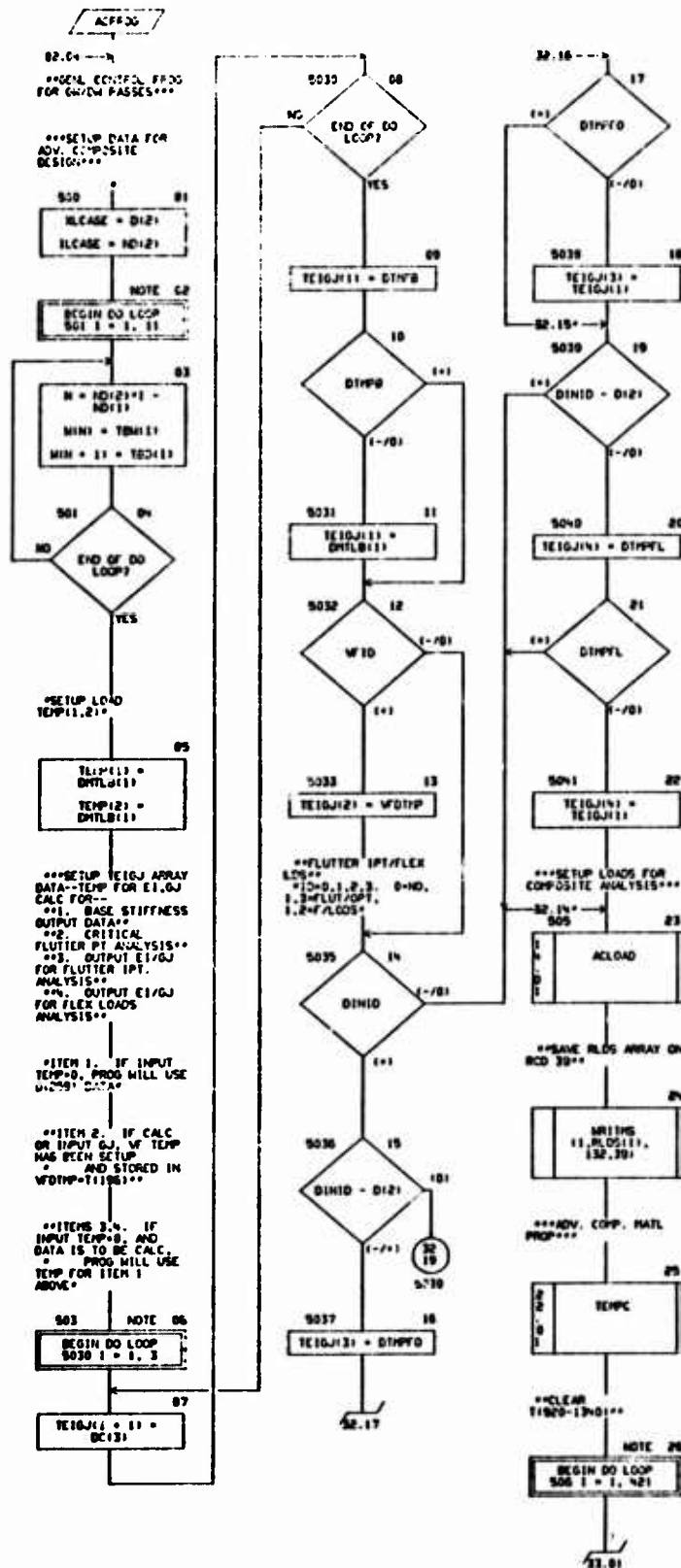
\*\*\*TOTAL SURFACE HEIGHT SYNTHESIS CONTROL - ADV. COMP. ANALYSIS\*\*\*

\*\*\*\*\*

05/14/74

AUTOCOR CORP SET - 5417 KING AND EVIDENCE HOUSE - PAGE 32

CHART TITLE - SUEPATIVE APPROG





```

graph TD
    01[01 T1 = 010 = 0C13] --> 02{02 END OF DO LOOP?}
    02 -- NO --> 32.26
    02 -- YES --> 03[03 ***SETUP INT ARRAY CONSTANTS  
SORD = ENP(8)  
INT(100) = 011]
    03 --> 04[04 BEGIN DO LOOP  
SET I = 1, 6]
    04 --> 05[05 INT(1) = 175 = 011]
    05 --> 06{06 END OF DO LOOP?}
    06 -- NO --> 07[07 INT(103) = 011  
INT(104) = 011]
    06 -- YES --> 08[08 SORD = SORD/D(17)]
    08 --> 09[09 ***SETUP ON PASSES.  
JAL=0***]
    09 --> 10{10 ND(5) = ND(5) (10/1)}
    10 -- 1 --> 11[11 ND(5) = ND(5)]
    10 -- 10/1 --> 12[12 ***CLEAR 100-100.  
100/RCO***]
    11 --> 12
    12 --> 13[13 BEGIN DO LOOP  
105 N = 1, 6]
    13 --> 14[14 IF N = N + 103]
    14 --> 15[15 WRITHS (1,CD(1),100, IF N)]
    15 --> 16{16 END OF DO LOOP?}
    16 -- NO --> 17[17 ***SAVE  
D1375,376,377,378,  
380,381,382***]
    16 -- YES --> 18[18 BEGIN DO LOOP  
151 I = 1, 4]
    18 --> 19[19 TCHST(1) = 011 + 374  
TCHST(1) = 41 = 011 + 379]
    19 --> 20{20 END OF DO LOOP?}
    20 -- NO --> 21[21 104 = ND(3)  
ND(4) = ND(4) + ND(1)]
    20 -- YES --> 22[22 ***TOGH(1)=0. TEST  
TOGH(1)***]
    21 --> 23{23 TOGH(1) (1-70)}
    23 -- 1 --> 24[24 104 = ND(1)]
    23 -- 1-70 --> 25[25 TOGH(2) (1-70)]
    24 --> 26[26 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    25 --> 27[27 TOGH(2) (1-70)]
    27 -- 1 --> 28[28 104 = ND(2)]
    27 -- 1-70 --> 29[29 TOGH(2) (1-70)]
    28 --> 30[30 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    29 --> 31[31 TOGH(2) (1-70)]
    31 -- 1 --> 32[32 104 = ND(2)]
    31 -- 1-70 --> 33[33 TOGH(2) (1-70)]
    32 --> 34[34 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    33 --> 35[35 TOGH(2) (1-70)]
    35 -- 1 --> 36[36 104 = ND(2)]
    35 -- 1-70 --> 37[37 TOGH(2) (1-70)]
    36 --> 38[38 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    37 --> 39[39 TOGH(2) (1-70)]
    39 -- 1 --> 40[40 104 = ND(2)]
    39 -- 1-70 --> 41[41 TOGH(2) (1-70)]
    40 --> 42[42 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    41 --> 43[43 TOGH(2) (1-70)]
    43 -- 1 --> 44[44 104 = ND(2)]
    43 -- 1-70 --> 45[45 TOGH(2) (1-70)]
    44 --> 46[46 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    45 --> 47[47 TOGH(2) (1-70)]
    47 -- 1 --> 48[48 104 = ND(2)]
    47 -- 1-70 --> 49[49 TOGH(2) (1-70)]
    48 --> 50[50 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    49 --> 51[51 TOGH(2) (1-70)]
    51 -- 1 --> 52[52 104 = ND(2)]
    51 -- 1-70 --> 53[53 TOGH(2) (1-70)]
    52 --> 54[54 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    53 --> 55[55 TOGH(2) (1-70)]
    55 -- 1 --> 56[56 104 = ND(2)]
    55 -- 1-70 --> 57[57 TOGH(2) (1-70)]
    56 --> 58[58 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    57 --> 59[59 TOGH(2) (1-70)]
    59 -- 1 --> 60[60 104 = ND(2)]
    59 -- 1-70 --> 61[61 TOGH(2) (1-70)]
    60 --> 62[62 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    61 --> 63[63 TOGH(2) (1-70)]
    63 -- 1 --> 64[64 104 = ND(2)]
    63 -- 1-70 --> 65[65 TOGH(2) (1-70)]
    64 --> 66[66 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    65 --> 67[67 TOGH(2) (1-70)]
    67 -- 1 --> 68[68 104 = ND(2)]
    67 -- 1-70 --> 69[69 TOGH(2) (1-70)]
    68 --> 70[70 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    69 --> 71[71 TOGH(2) (1-70)]
    71 -- 1 --> 72[72 104 = ND(2)]
    71 -- 1-70 --> 73[73 TOGH(2) (1-70)]
    72 --> 74[74 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    73 --> 75[75 TOGH(2) (1-70)]
    75 -- 1 --> 76[76 104 = ND(2)]
    75 -- 1-70 --> 77[77 TOGH(2) (1-70)]
    76 --> 78[78 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    77 --> 79[79 TOGH(2) (1-70)]
    79 -- 1 --> 80[80 104 = ND(2)]
    79 -- 1-70 --> 81[81 TOGH(2) (1-70)]
    80 --> 82[82 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    81 --> 83[83 TOGH(2) (1-70)]
    83 -- 1 --> 84[84 104 = ND(2)]
    83 -- 1-70 --> 85[85 TOGH(2) (1-70)]
    84 --> 86[86 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    85 --> 87[87 TOGH(2) (1-70)]
    87 -- 1 --> 88[88 104 = ND(2)]
    87 -- 1-70 --> 89[89 TOGH(2) (1-70)]
    88 --> 90[90 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    89 --> 91[91 TOGH(2) (1-70)]
    91 -- 1 --> 92[92 104 = ND(2)]
    91 -- 1-70 --> 93[93 TOGH(2) (1-70)]
    92 --> 94[94 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    93 --> 95[95 TOGH(2) (1-70)]
    95 -- 1 --> 96[96 104 = ND(2)]
    95 -- 1-70 --> 97[97 TOGH(2) (1-70)]
    96 --> 98[98 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    97 --> 99[99 TOGH(2) (1-70)]
    99 -- 1 --> 100[100 104 = ND(2)]
    99 -- 1-70 --> 101[101 TOGH(2) (1-70)]
    100 --> 102[102 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    101 --> 103[103 TOGH(2) (1-70)]
    103 -- 1 --> 104[104 104 = ND(2)]
    103 -- 1-70 --> 105[105 TOGH(2) (1-70)]
    104 --> 106[106 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    105 --> 107[107 TOGH(2) (1-70)]
    107 -- 1 --> 108[108 104 = ND(2)]
    107 -- 1-70 --> 109[109 TOGH(2) (1-70)]
    108 --> 110[110 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    109 --> 111[111 TOGH(2) (1-70)]
    111 -- 1 --> 112[112 104 = ND(2)]
    111 -- 1-70 --> 113[113 TOGH(2) (1-70)]
    112 --> 114[114 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    113 --> 115[115 TOGH(2) (1-70)]
    115 -- 1 --> 116[116 104 = ND(2)]
    115 -- 1-70 --> 117[117 TOGH(2) (1-70)]
    116 --> 118[118 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    117 --> 119[119 TOGH(2) (1-70)]
    119 -- 1 --> 120[120 104 = ND(2)]
    119 -- 1-70 --> 121[121 TOGH(2) (1-70)]
    120 --> 122[122 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    121 --> 123[123 TOGH(2) (1-70)]
    123 -- 1 --> 124[124 104 = ND(2)]
    123 -- 1-70 --> 125[125 TOGH(2) (1-70)]
    124 --> 126[126 ***TOGH(3 AND 1)=0.  
TEST TOGH(2)***]
    125 --> 127[127 TOGH(2) (1-70)]
    127 -- 1 --> 128[128 104 = ND(2)]
    127 -- 1-70 --> 12
```

CHART TITLE - SUBROUTINE ACTROS

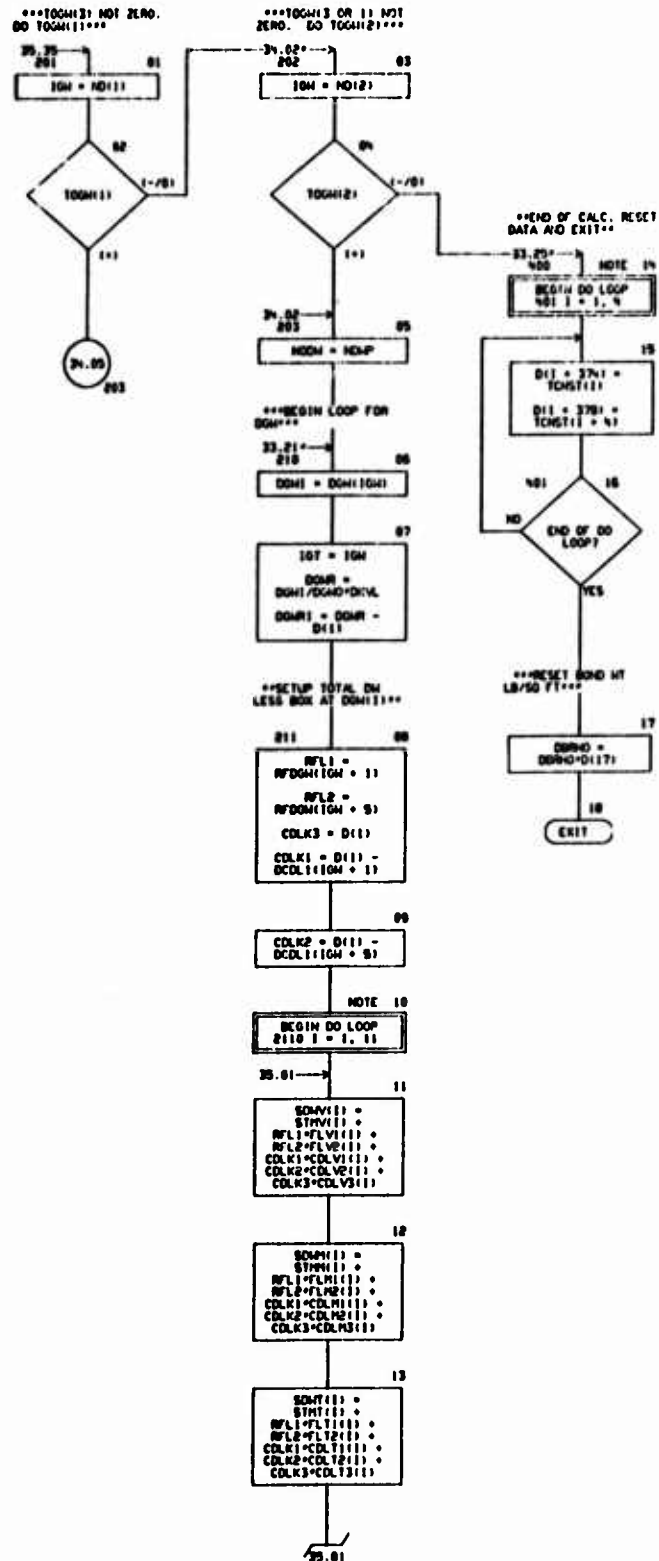


CHART TITLE - SUPERFICIAL ANALYSIS

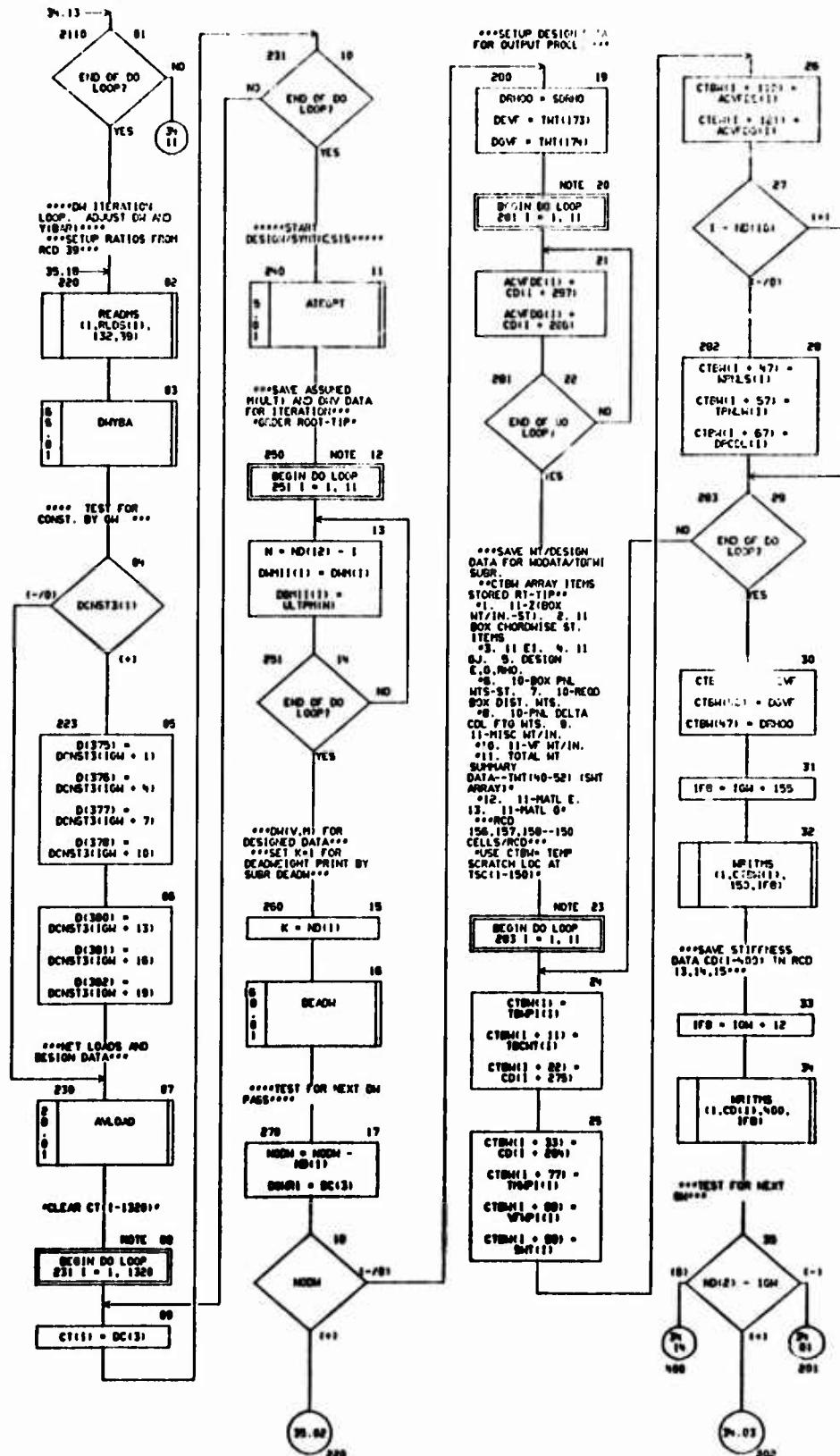


CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T1(120),D1(250),CD1(200),J(100),TW(90),CT1(20)
COMMON /MISC/MISC(100)
DIMENSION D(1100),TSEC(120),DOGH(3),TOGH(3),TSS(100),TWT(40),
TTRN(1),DHTLB(17),TDS(15),ULTPH(1),DAMI(1),DHT(1),
YBU(1),YE(1),YBL(1),YBL(1),YBL(1),
DAMI(1),DAMI(1),DAMI(1),DEFF(1),
SDWH(1),SCHW(1),SCHW(1),COL(10),CONST(22),TOGST(0),
RDSH(0),FLV(1),FLV(1),FLM(1),FLM(1),FLT(1),FLT(1),
COLV(1),COLV(1),COLV(1),COLV(1),COLV(1),COLV(1),COLV(1),
COLT(1),COLT(1),COLT(1),STH(1),STH(1),STH(1),
DOST(1),DOST(1),COL(1),SHT(1),
MPLS(1),TPLN(1),TBSH(1),TEMP(1),TSP(1),WMP(1),
ACVDE(1),ACVDE(1),
CTBH(1),TSC(120)
DIMENSION TEMP(20),M(22),
TE(10),
EMP(1),
RLDS(132),
TBO(1),TBM(1),CJRD(1)
EQUIVALENCE (DC(1),D(140)),(TSEC(1),CD(150)),(TT(1),T(1317)),
(DGH(1),D(102)),(DGH(3),D(105)),(DOGH,T(122)),(TOGH(1),D(83)),
(DCW,D(123)),(CDW,D(136)),(DCNST(1),D(130)),(TWT(1),CD(110)),
(TDOH(1),T(143)),(DOGH(1),TDOH(1)),(DOGH,TDOH(2)),(TBK,TOGH(1)),
(RFL,TDOH(1)),(RFL,TDOH(2)),
(COLK1,TDOH(13)),(COLK2,TDOH(14)),(COLK3,TDOH(15)),
(TOPS,NO(83)),(TOPC,NO(84)),(TOP1,NO(82)),(TOP,NO(74)),
(TSC,NO(122)),(ICD,NO(49)),(I,NO(128)),(IN,NO(127)),(K,NO(129)),
(IFN,NO(93)),(IFB,NO(97)),(INOC,NO(150)),
(ION,NO(161)),(IGT,NO(157)),(INOC,NO(156)),(INOP,NO(125))
EQUIVALENCE (YBL(1),T(679)),(YBL(1),T(690)),
(DOPT,D(1365)),(DOPTP,D(1399)),(TSS(1),T(1961)),
(DOST(1),D(1765)),(DOST(1),D(1776)),
(DAM(1),T(1961)),(DAM(1),T(1609)),(DHT(1),T(620)),
(DAMI(1),T(1701)),(DAMI(1),T(1712)),
(DNK(1),T(1723)),(DEFF(1),T(800)),(ULTPH(1),TSEC(1)),
(FLV(1),T(1445)),(FLM(1),T(1456)),(FLT(1),T(1467)),
(FLV(1),T(1470)),(FLM(1),T(1481)),(FLT(1),T(1491)),
(SDW(1),T(184)),(SDWH(1),T(185)),(SCHW(1),T(186)),
(YBU(1),TSEC(133)),(YBL(1),TSEC(100))
EQUIVALENCE (STH(1),T(81)),(STH(1),T(82)),(STH(1),T(83)),
(COLV(1),T(329)),(COLM(1),T(320)),(COLT(1),T(331)),
(COLV(1),T(342)),(COLM(1),T(353)),(COLT(1),T(364)),
(COLV(1),T(375)),(COLM(1),T(386)),(COLT(1),T(397)),
(INFDM(1),T(152)),(DHTLB(1),T(120)),
(SDRD,T(175)),(ERT,DHTLB(14)),(ERT,DHTLB(15)),
(OPDL(1),T(220)),(SHT(1),T(1734)),(CHST(1),CD(1960)),
(MPLS(1),T(145)),(TPLN(1),T(156)),(TBSH(1),T(170)),
(TSP(1),T(1745)),(TSP(1),T(1770)),(WMP(1),T(1750)),
(COL(1),D(187)),
ACVDE(1),CD(1930),ACVDE(1),CD(1940),
IDW(1),CD(1957),IDW(1),CD(1936),IDW(1),CD(1935),
CTBH(1),T(1941),TSEC(1),T(1941)
EQUIVALENCE (TEMP(1),CT(200)),(M(1),CT(100)),
(TBO(1),T(130)),(TBM(1),T(1942)),(CJRD(1),T(100)),
(TC(1),T(1703)),(OTTP(1),D(201)),(VDTTP(1),D(100)),(OTTP(1),D(201)),
(OTTP(1),D(203)),(VDTTP(1),D(203)),(OTTP(1),D(203)),
EMP(1),D(1961),
RLDS(1),CD(100),
(STH(1),D(136)),(CHST(1),D(146)),
AC(1),D(1430),IDW(1),D(1461),ACCV(1),D(1431),
ILCARE,CT(204),
ILCARE,NO(141)

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08/14/74

AUTOTECN CHART SLT - SHEEP WIND AND EMISSIONS HOUSE - PAGE 37

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE CKSTAD\*\*\*\*\*

\*\*\*COMP/SEOR STABILITY CHECK FOR ADV. COMP. PANELS\*\*\*

\*\*\*\*\*

CHART TITLE - SUBROUTINE C1STAB,D,L,M,N,P,NKY,FACT,FCRS,FCNS,LEAS,TCNPL1

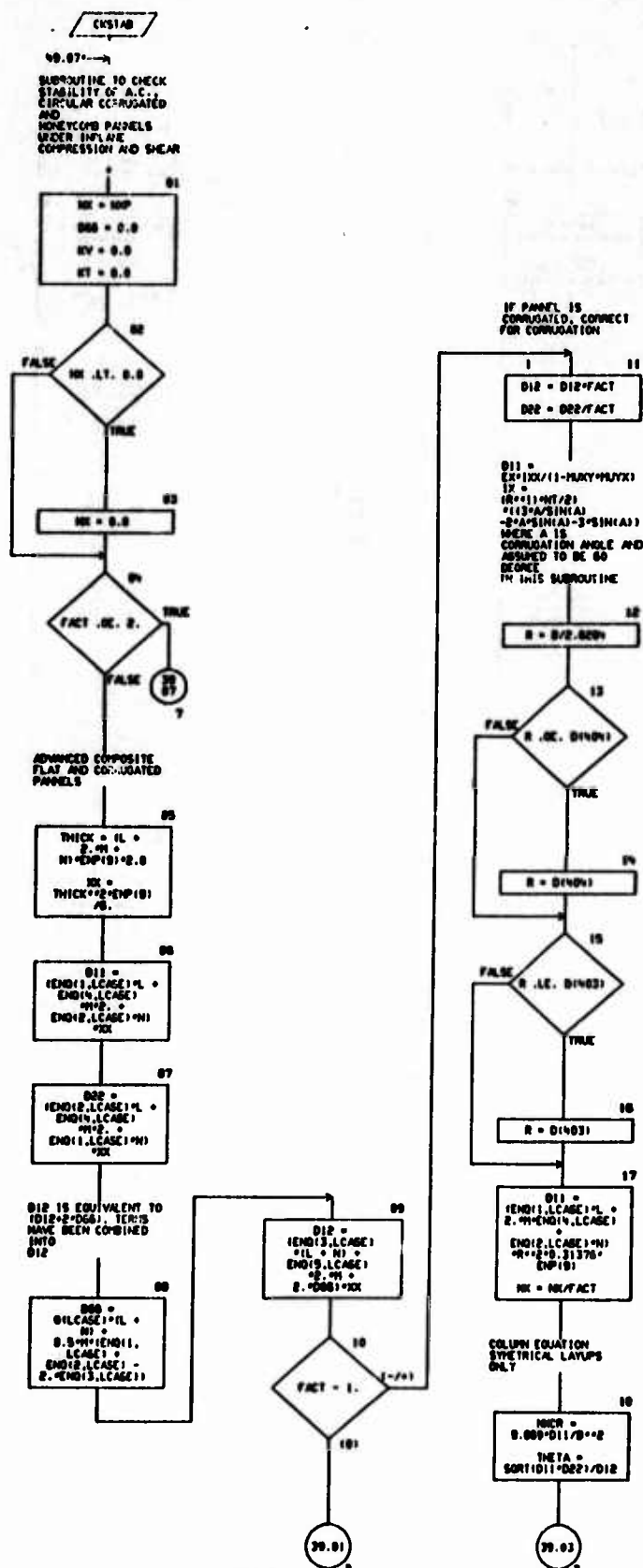
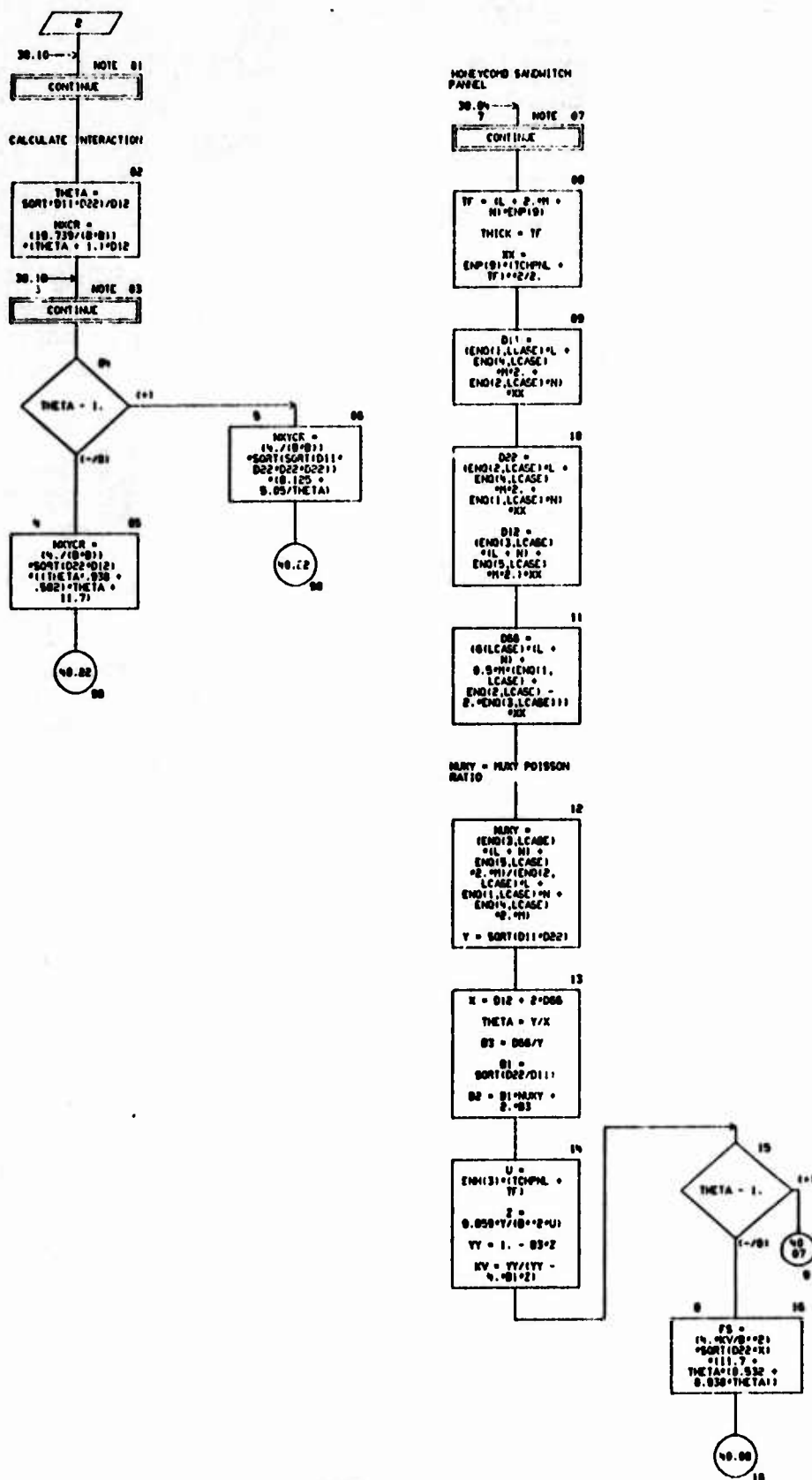


CHART TITLE - SUBROUTINE (NSTAB,D,B,L,M,N,IMP,NVY,FACT,PERC,PCFS,LCASE,TCFPA)



2009



CHART TITLE - SUBROUTINE C-STARTR, R, L, M, N, HOP, NXY, FACT, PERC, PERH, LEAC, TCH, LI



CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T(1015)
DIMENSION D(2000),CD(2000),ND(100),TH(500),CT(2000),
ENP(10),ENH(10),
END(15,20),ENC(10),
APRT(10,12),
Q(20)
EQUIVALENCE (D(1),T(2001)),(CD(1),T(4121)),(ND(1),T(6121)),
(TH(1),T(8221)),(CT(1),T(7121)),
(ENP(1),D(1155)),(ENH(1),D(1164)),
(ENC(1),CT(2043)),(END(1,1),TH(60)),
(APRT(1),T(1070)),(HMAX,ND(3)),(HSTAT,ND(55)),
(101),CT(2023))
REAL NXP
REAL KV,MURV,KT,L,M,N,NX,NXY,NXR,NXYR
205 FORMAT (10D7,2N40 '***CKSTAD SUBR -- STA,12,12M LOAD CASE ,12,B1
PT ND=14,NH B=F6.2,BH FACT=F4.2,NH*** )
206 FORMAT (2X,3F6.1,F7.4,3X,2E15.0,3X,3E15.0,/304,2E15.0,3X,3E15.0,/1
2X,F15.0,3X,2E15.0,3X,3E15.0/12X,F0.6,3X,2E15.0)

```

06/14/76

AUTOFLOW CHART SET - SWEEP    HING AND EFFERAGE MEASRE -    PAGE 43

CHART TITLE - INTRODUCTORY CONTENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ACMS\*\*\*\*\*

\*\*\*M/SR, FDM TORQUE-BOX SYNTHESIS - ADV. COMP. ANALYSIS\*\*\*

\*\*\*\*\*

CHART TITLE: SLEDDING KING

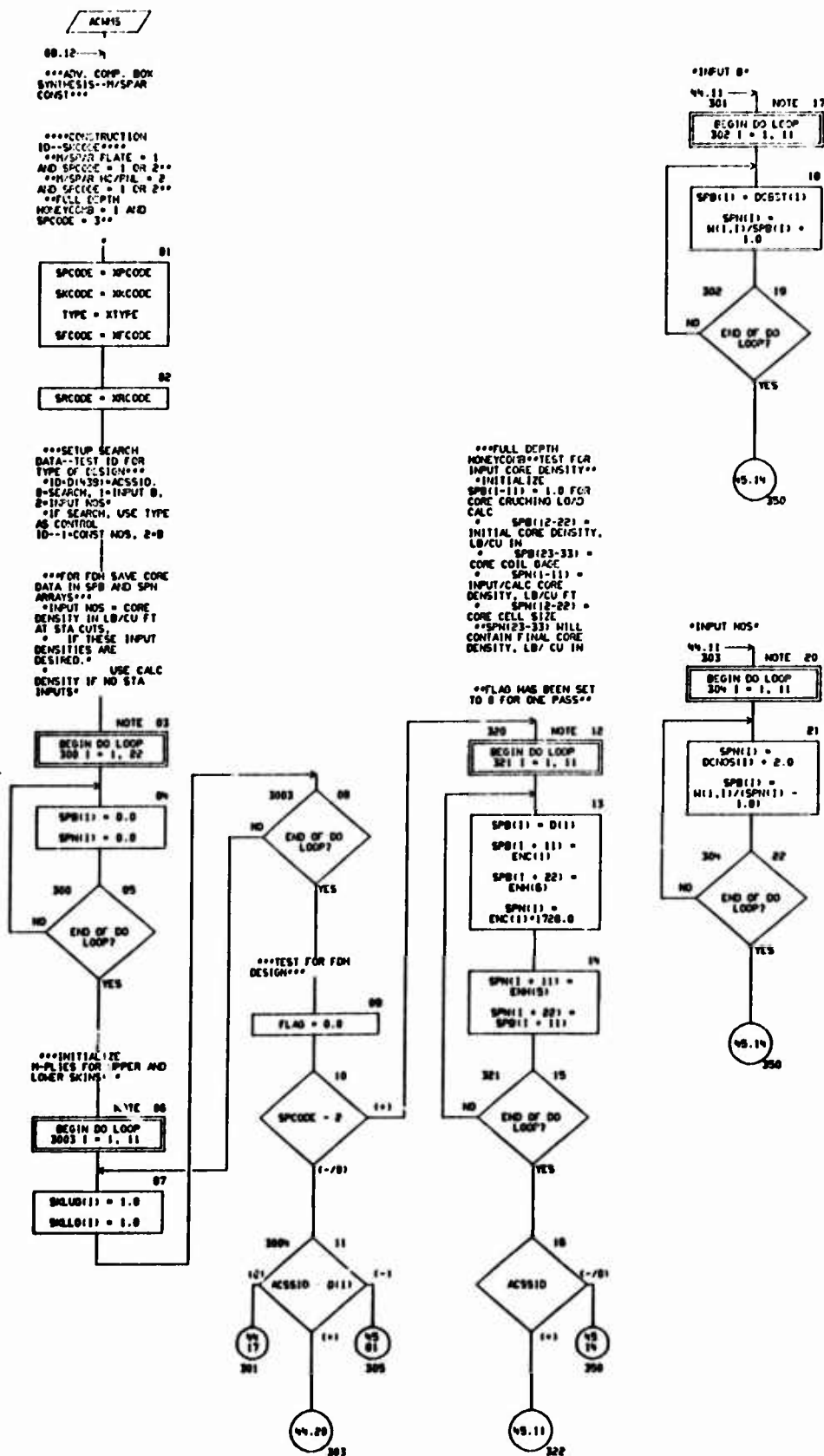


CHART TITLE - SUBROUTINE ACMP5

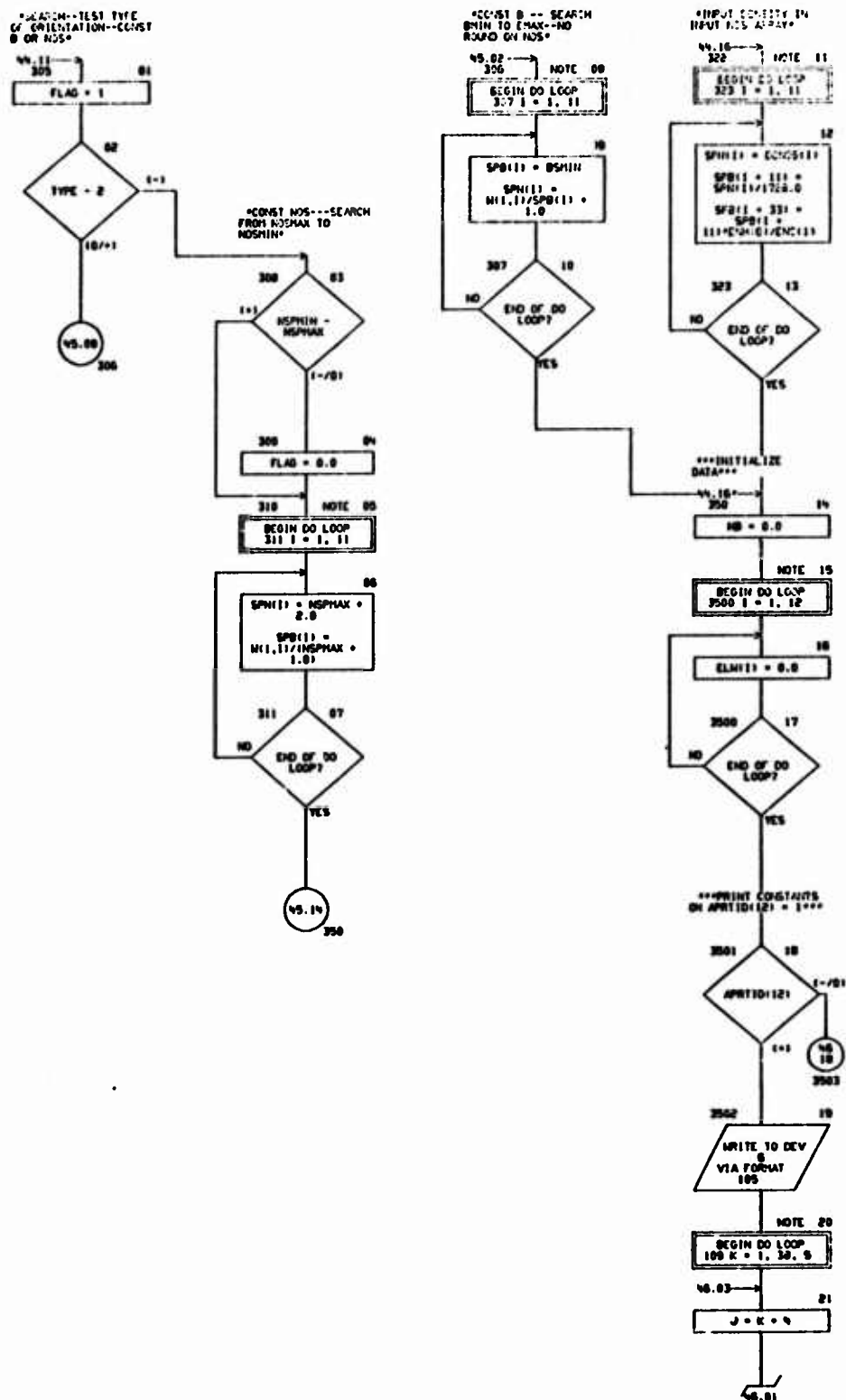
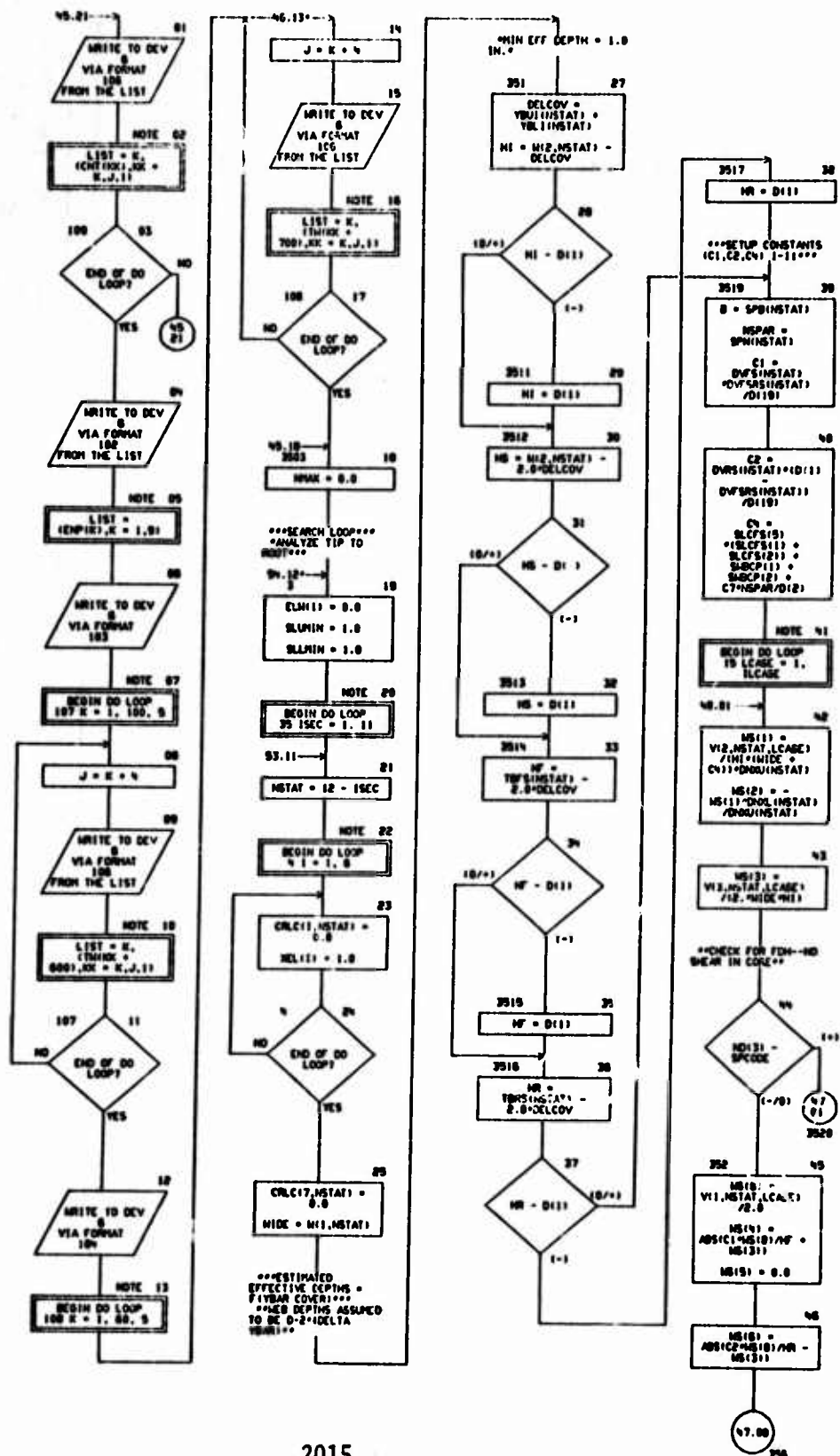


CHART TITLE - SUBROUTINE AC315



••TUSPAN••



CHART TITLE - SUBROUTINE ACN13

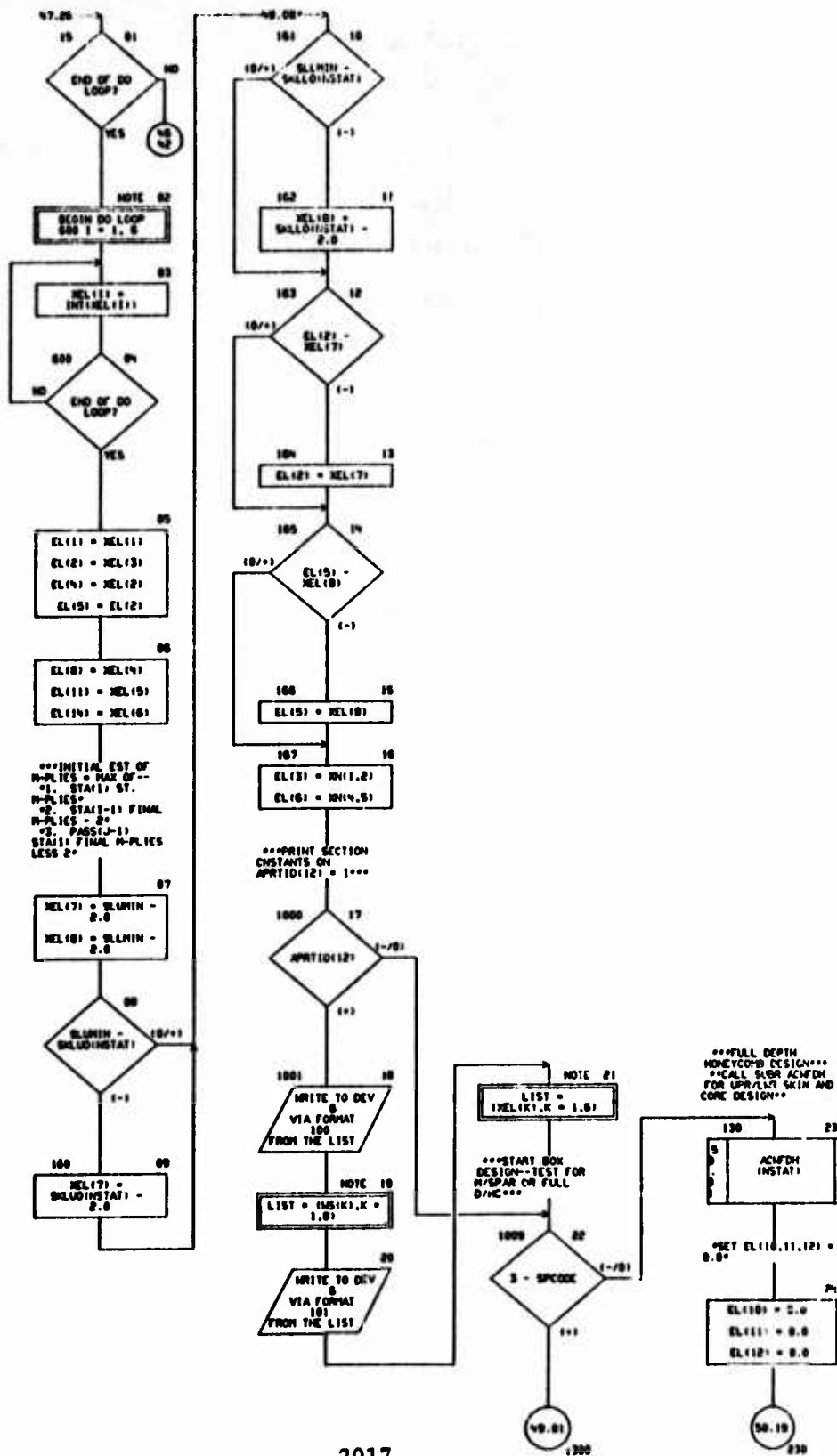




CHART TITLE - ELECTROSTATIC ANALYSIS

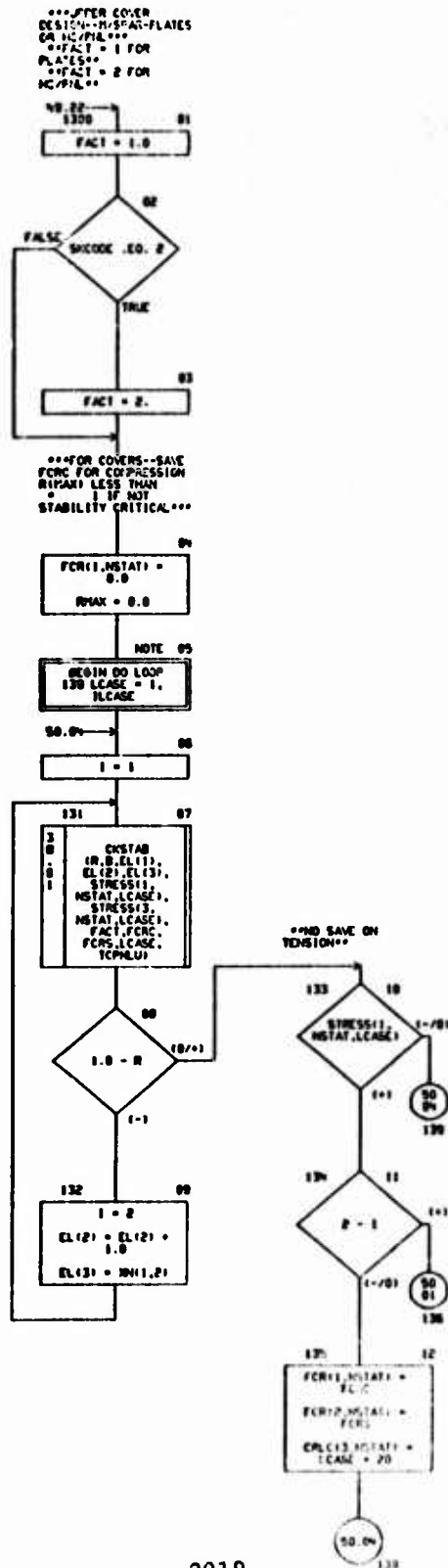


CHART TITLE - SUBROUTINE ACING

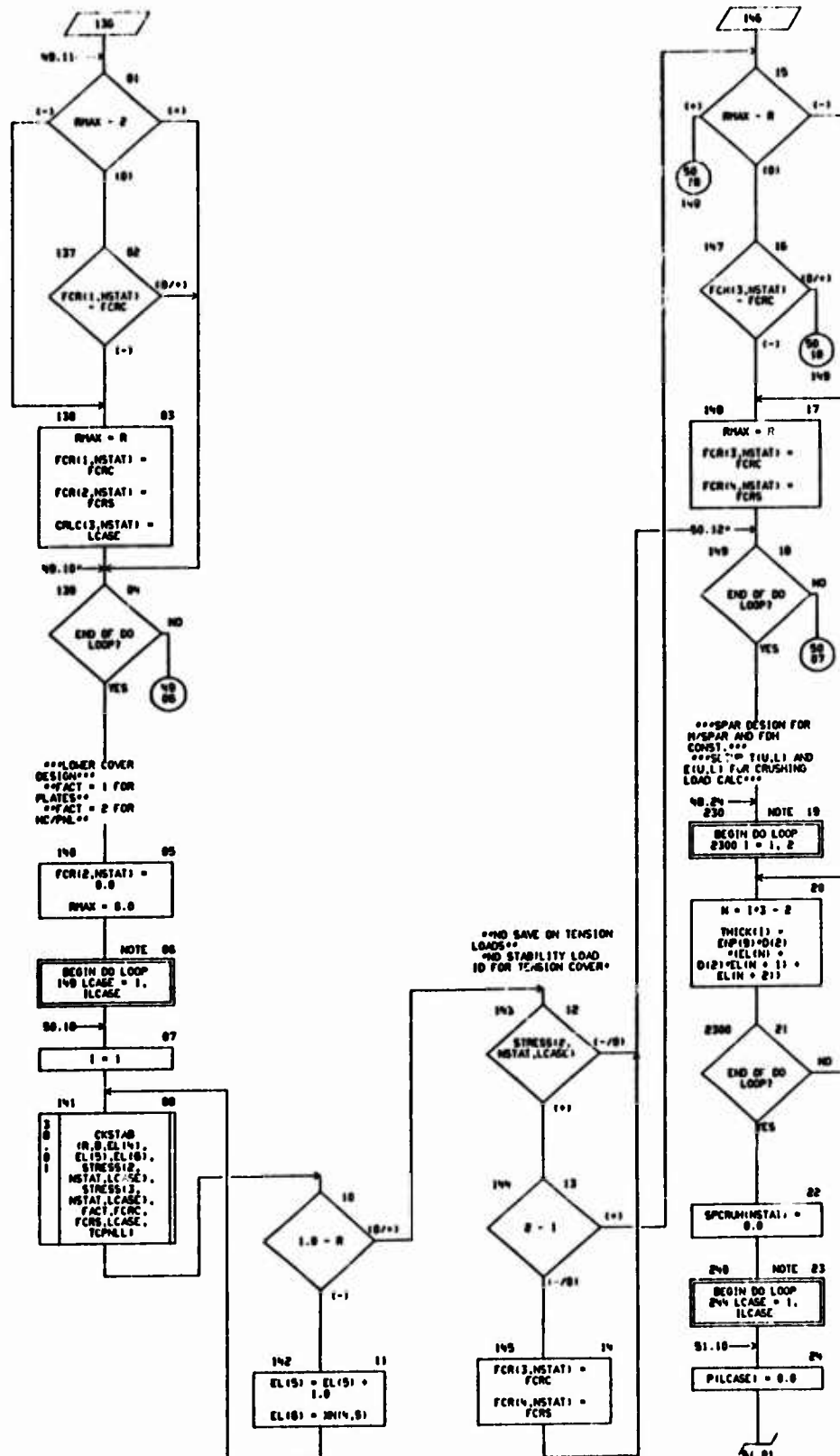


CHART TITLE - SHEEP/TIME ACPTS

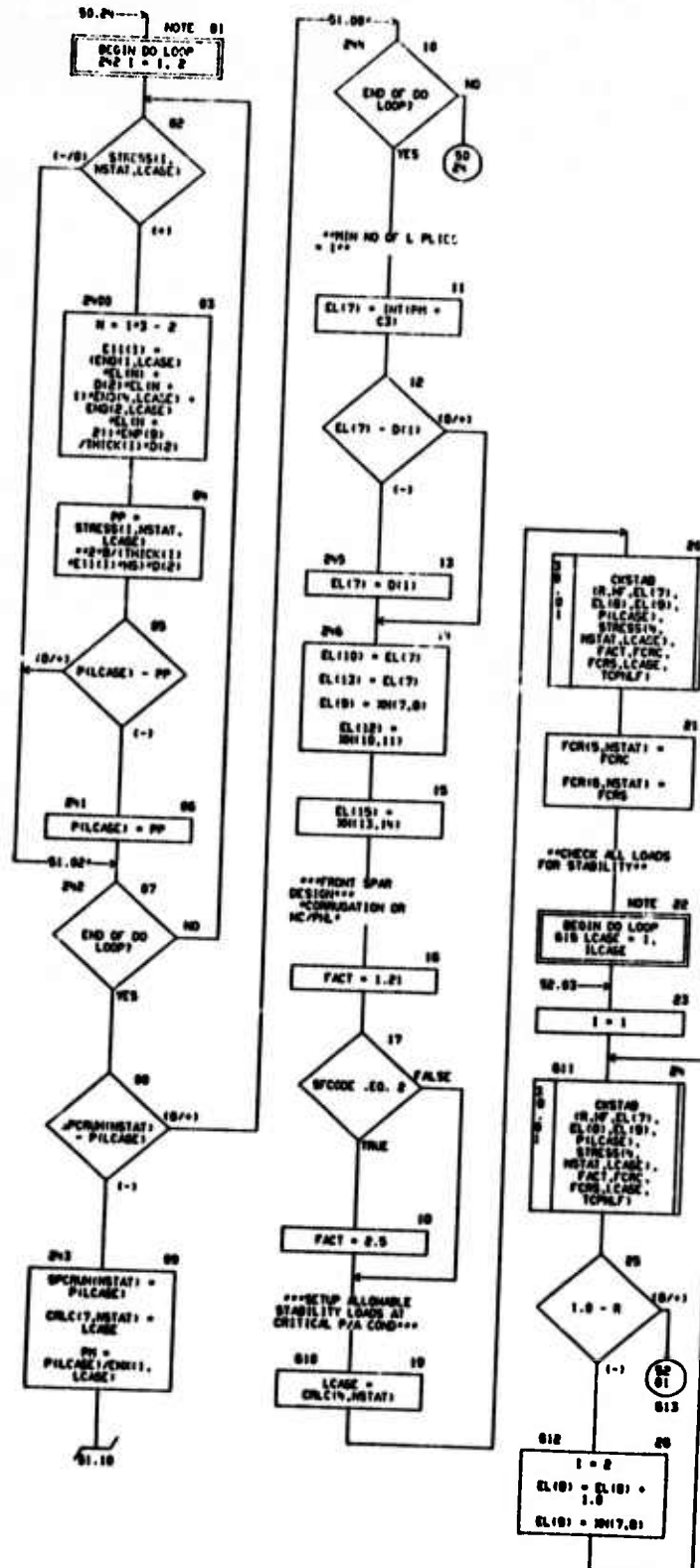


CHART TITLE - SUGGESTION ADMS

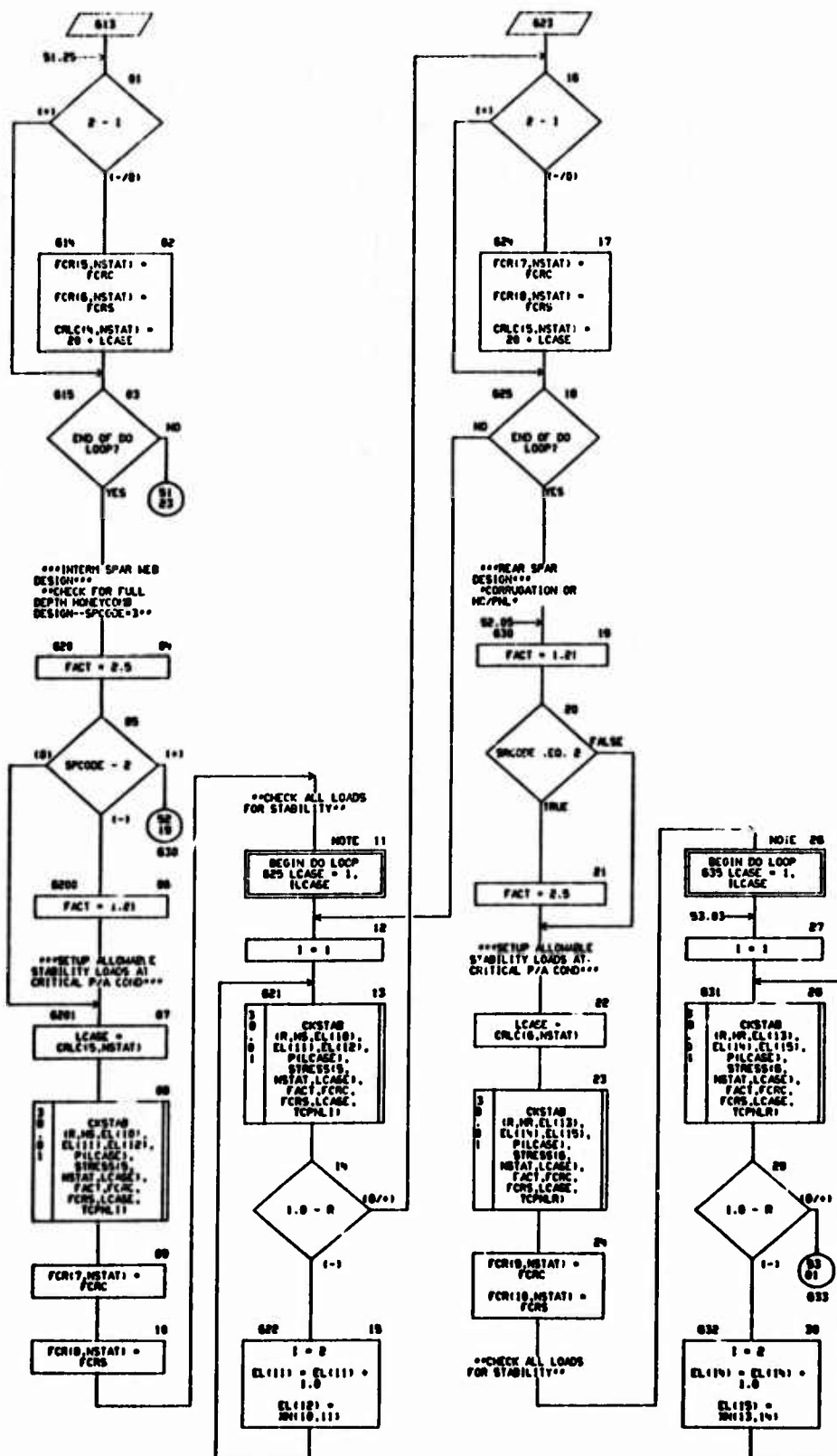


CHART TITLE - SUBROUTINE ACIMS

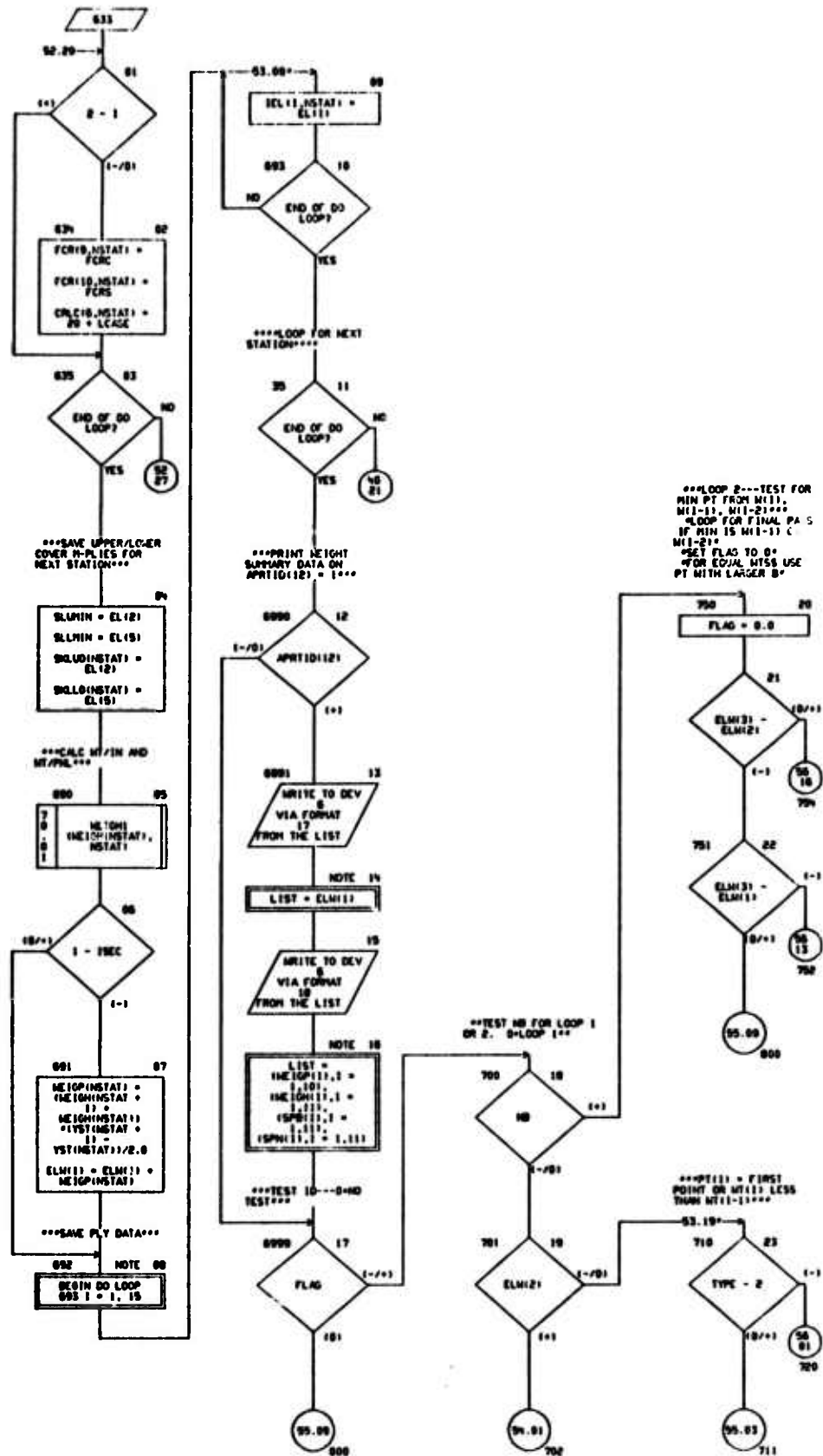
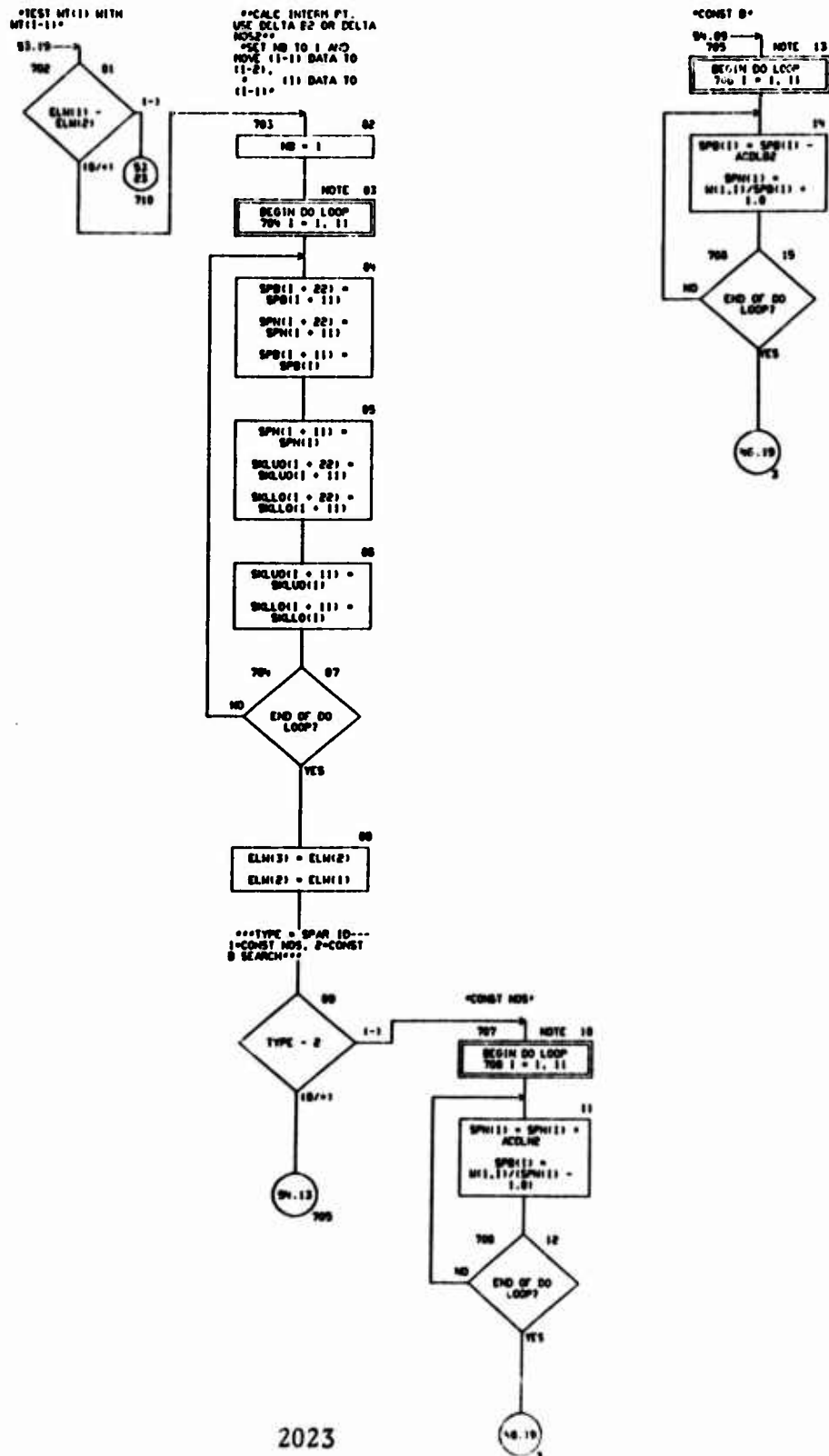


CHART TITLE - SUBROUTINE ACMP5



```

..CONST 0
SEARCH--..ICST IF
PTIII IS AT ENAX..

```

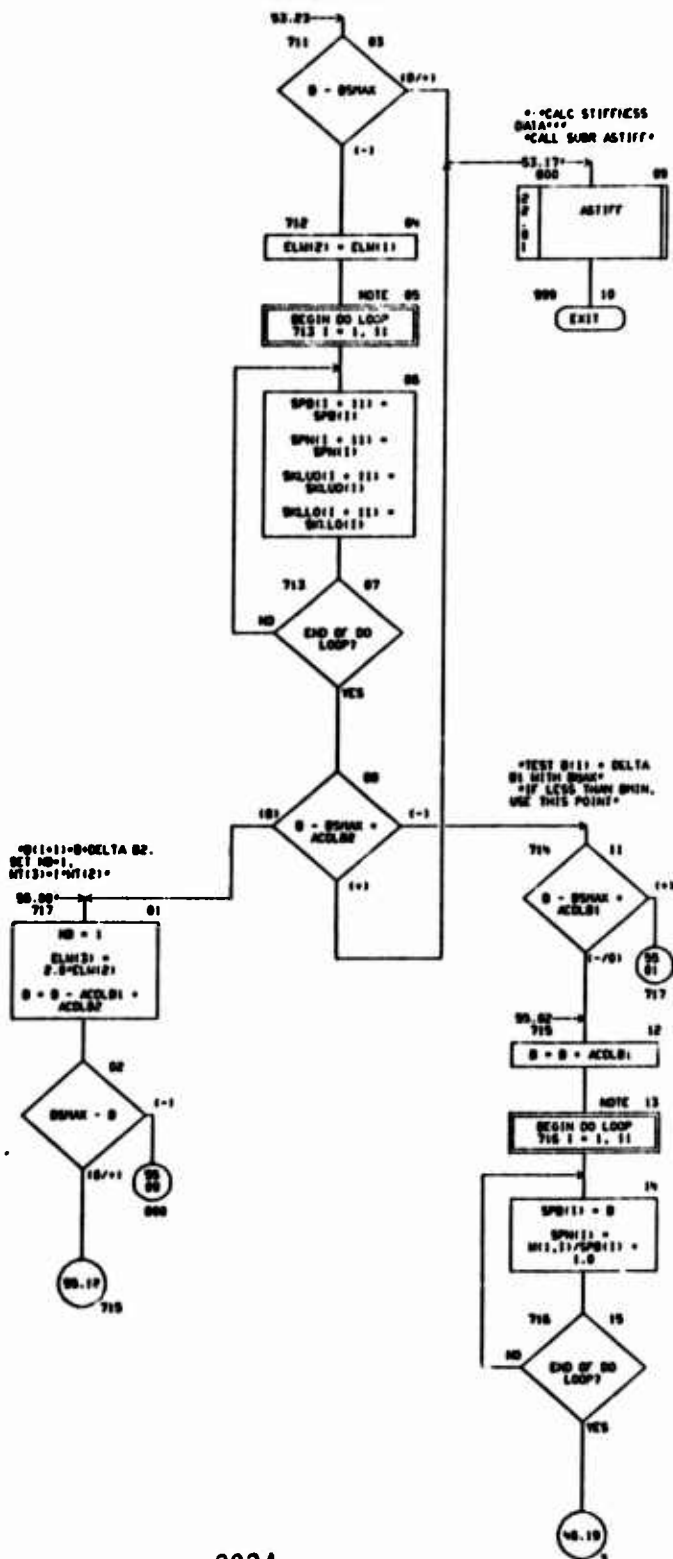
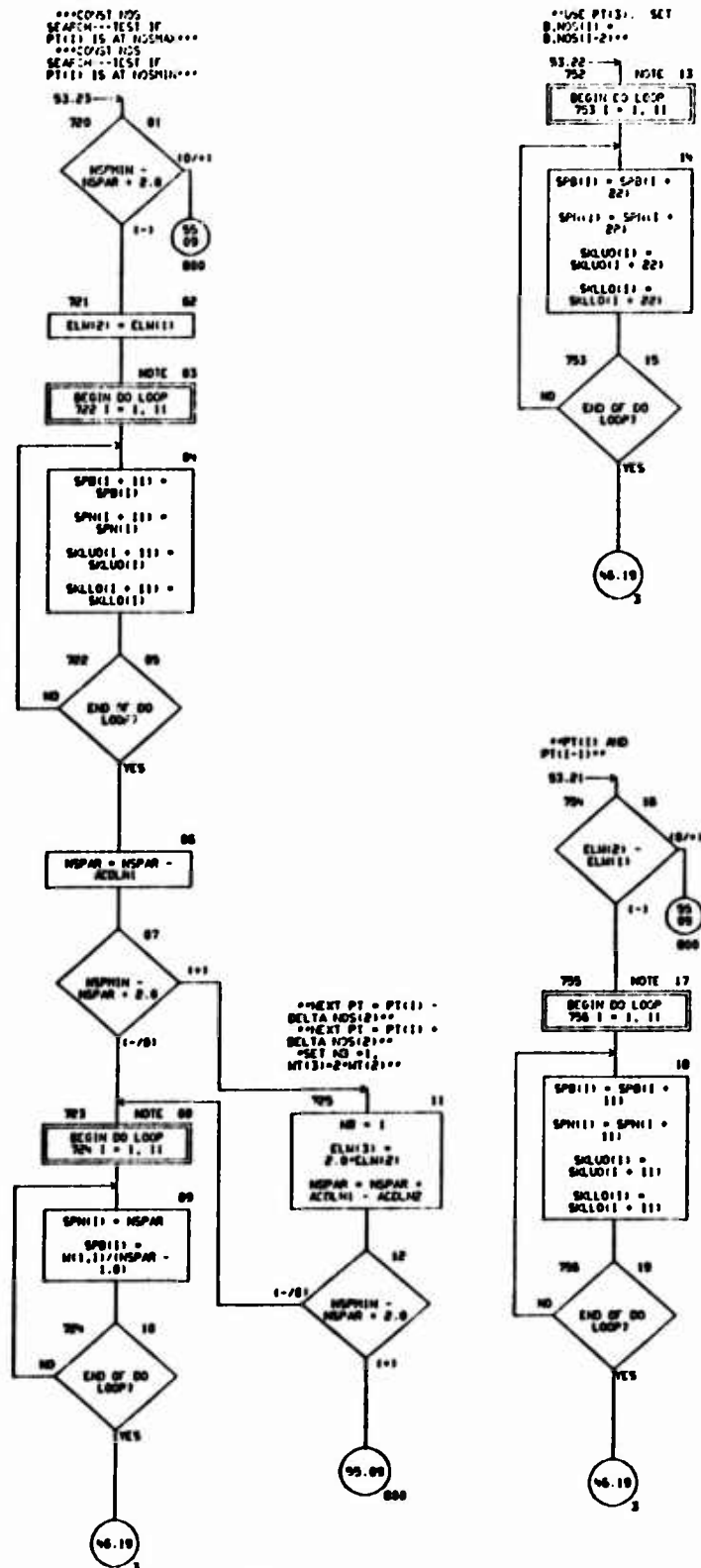


CHART TITLE - SUBROUTINE ACMP5





## CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T(1010)
DIMENSION D(200),CD(200),CD(100),TH(200),CT(200),
EXP(1),ENH(1),
END(1,20),ENK(1,20),CNT(10),
ENC(1),EL(10),ELM(10),NEL(10),MS(10),
P(20),MEIGH(1),SPCPJH(1),FCR(10,1),IEL(10,1),
DNFS(1),DNVS(1),DNFSRS(1),SLCFS(1),
TBS(1),TETS(1),YST(1),
SPD(1),SPH(1),DCPS(1),DCNS(1),MC(10),
THICK(1),E(10),SLUD(1),SKLO(1),
M(2,1),V(2,1,20),STRESS(1,1,20),CRLC(1,1),
YBU(1),YEL(1),
DOP2(1),DOP3(1),
APRT(10),
SBCP(1),DOP(1),DNL(1),
EQUIVALENCE (D(1),T(200)),(CD(1),T(101)),(ND(1),T(101)),
(TM(1),T(101)),(CT(1),T(101)),
(ENP(1),D(101)),(ENH(1),D(101)),
(ENB(1),T(101)),(ENK(1),T(101)),(CNT(1),T(101)),
(ENC(1),CT(200)),(EL(1),T(101)),(MS(1),T(101)),
(ELM(1),T(101)),(NEL(1),T(101)),(MEIGH(1),T(101)),
(P(1),T(101)),(MEIGH(1),T(101)),(SPCPJH(1),T(101)),
(CRLC(1),T(101)),(FCR(1,1),T(101)),(IEL(1,1),T(101)),
(M(1,1),CT(101)),(V(1,1),CT(101)),(STRESS(1,1),CT(101)),
(SBCODE,ND(1)),(SKCODE,ND(1)),(TYPE,ND(1)),(ILCAGE,ND(1))
EQUIVALENCE (NSPIN,CNT(1)),(NSMAX,CNT(1)),(XTYPE,CNT(1)),
(IC1,CNT(1)),(IC2,CNT(1)),(IC3,CNT(1)),(IC4,CNT(1)),
(DNFS(1),D(101)),(DNVS(1),D(101)),(DNFSRS(1),CD(101)),
(SLCFS(1),D(101)),
(TBS(1),T(101)),(TETS(1),T(101)),(YST(1),T(101)),
(ENB,CNT(20)),(ENK,CNT(20)),(ENH,CNT(20)),
(NSCODE,CNT(20)),(SKCODE,CNT(20)),
(NSPIN,CNT(10)),(NSMAX,CNT(10)),(XTYPE,CNT(10)),
(NSCODE,CNT(20)),(NSPAR,CNT(10)),(IC7,CNT(10))
EQUIVALENCE (ACSLD,D(101)),
(SPD(1),T(101)),(SPH(1),T(101)),(THICK(1),T(101)),
(DOP2(1),D(101)),(DOP3(1),D(101)),
(YBU(1),T(101)),(YEL(1),T(101)),
(ACOLM,DOP(1)),(ACOLN,DOP(1)),
(ACOLB,DOP(1)),(ACOLC,DOP(1)),
(TCPML,CNT(20)),(TCPML,CNT(20)),(TCPML,CNT(10)),
(TCPML,CNT(10)),(TCPML,CNT(10)),
(DCPS(1),D(101)),(DCNS(1),D(101)),
(APRT(1),T(101)),(APRT,ND(1)),(INSTAT,ND(1)),(ISEC,ND(1)),
(SBCP(1),D(101)),(DOP(1),D(101)),(DNL(1),D(101)),
(ELM(1),CNT(10)),(ELM(1),CNT(10)),
(SLUD(1),CD(20)),(SKLO(1),CD(20))
INTEGER FLAG
INTEGER SBCODE,SKCODE,TYPE
INTEGER NSCODE,NSCODE
REAL NSPAR
REAL NSPIN,NSMAX,IEL
100 FORMAT (7H MS=,4E10.0,7X,4E10.0)
101 FORMAT (7H NEL=,4E10.0)
102 FORMAT (7H ENP=,4E10.0,7X,4E10.0)
103 FORMAT (10H END)
104 FORMAT (10H ENK)
105 FORMAT (10H CNT)
106 FORMAT (1H ,3X,10,4E10.0)
17 FORMAT (15H CALC MEIGH=F10.4)
18 FORMAT (10H MPAL= 1070.3,10H MT/IN= 1170.3,10H D= 117
9.3,10H NS= 1170.3)

```

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AUTOFLOW CHART SET - SLEEP WING AND LIFETIME PROBLE - PAGE 50

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ACWFM\*\*\*\*\*

\*\*\*FULL-DEPTH NC SECTION OPTIMIZATION - ADV. COMP. ANALYSIS\*\*\*

\*\*\*\*\*

CHART TITLE - SUBROUTINE AEMF04(N)

AEMF04

40.23-->

\*\*\*SUB FOR SIZING  
OF FULL DEPTH  
NOKEYCUTS  
TORQUE-BOX\*\*\*  
\*\*CHECK SECTION  
COVER AND CORE HEIGHTS  
FOR CORE STABILITY\*\*  
\* WRINKLING AND  
CRUSHING\*

\*\*\*SIZINGS TO BE  
BASED ON STATUS OF  
SIZING ID--ACFONE\*\*\*  
\*\*ACFONE = D14341\*\*  
\* 1. OPTIMUM  
SKIN/COE  
COMBINATION--ID=0  
\* 2. CONSTANT  
CORE/VARIABLE  
SKIN--ID=1  
\* 3. CONSTANT  
SKIN/VARIABLE CORE  
DENSITY--ID=2

\*\*\*\* NOTE.  
IF 131.321 MUST NOT BE  
USED. USED BY  
AEMF04\*\*\*\*  
\*\*\* N = NSTAT\*\*\*

\*\*\*SIZE UPPER AND  
LOWER COVER IN TWO  
PASSES\*\*\*  
\*\*SAVE FCR FOR  
COMPRESSION RMAX LESS  
THAN U  
\*\*S.A. FCR FOR  
COMPRESSION RMAX LESS  
THAN 1 IF NOT  
\*\* CRITICAL FOR  
WRINKLING OR  
CRUSHING\*\*  
\*IS = STABILITY ID  
AT LOAD FOR SKINS.  
1=NO, 2=YES\*  
\*IC = STABILITY ID  
AT LOAD FOR CORE.  
1=NO, 2=YES\*

\*\*\*SETUP DATA FOR  
LOAD LOOP AND EXSFON  
SUBR\*\*

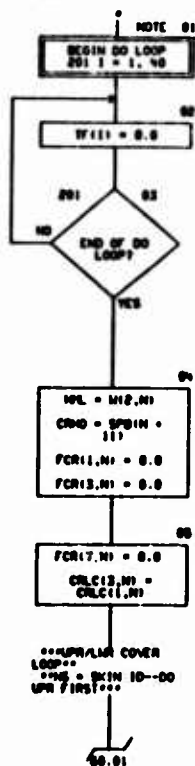


CHART TITLE - SKEEP MING AND EMPERANCE MODULE

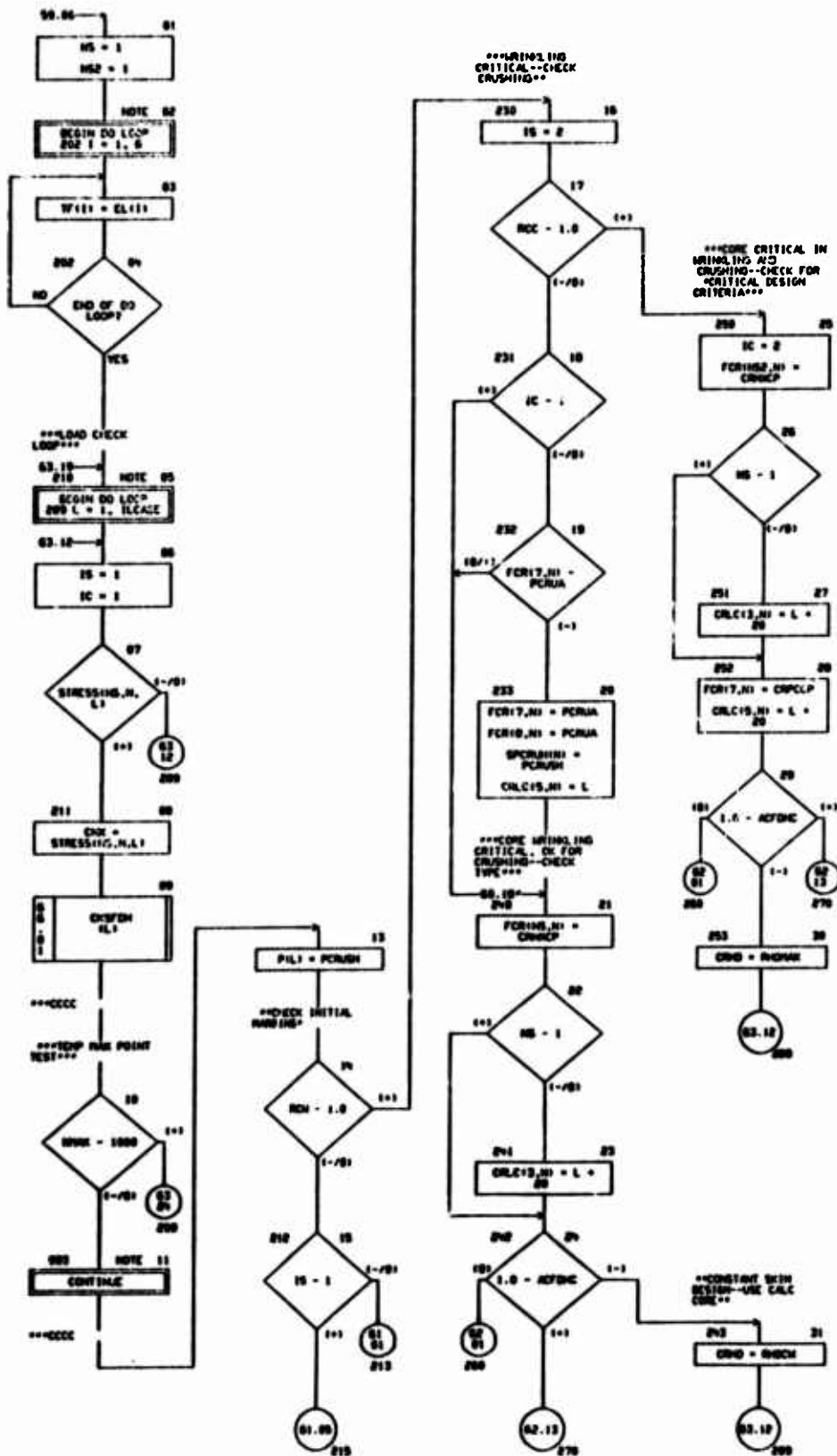


CHART TITLE - SUBROUTINE ALGFORM

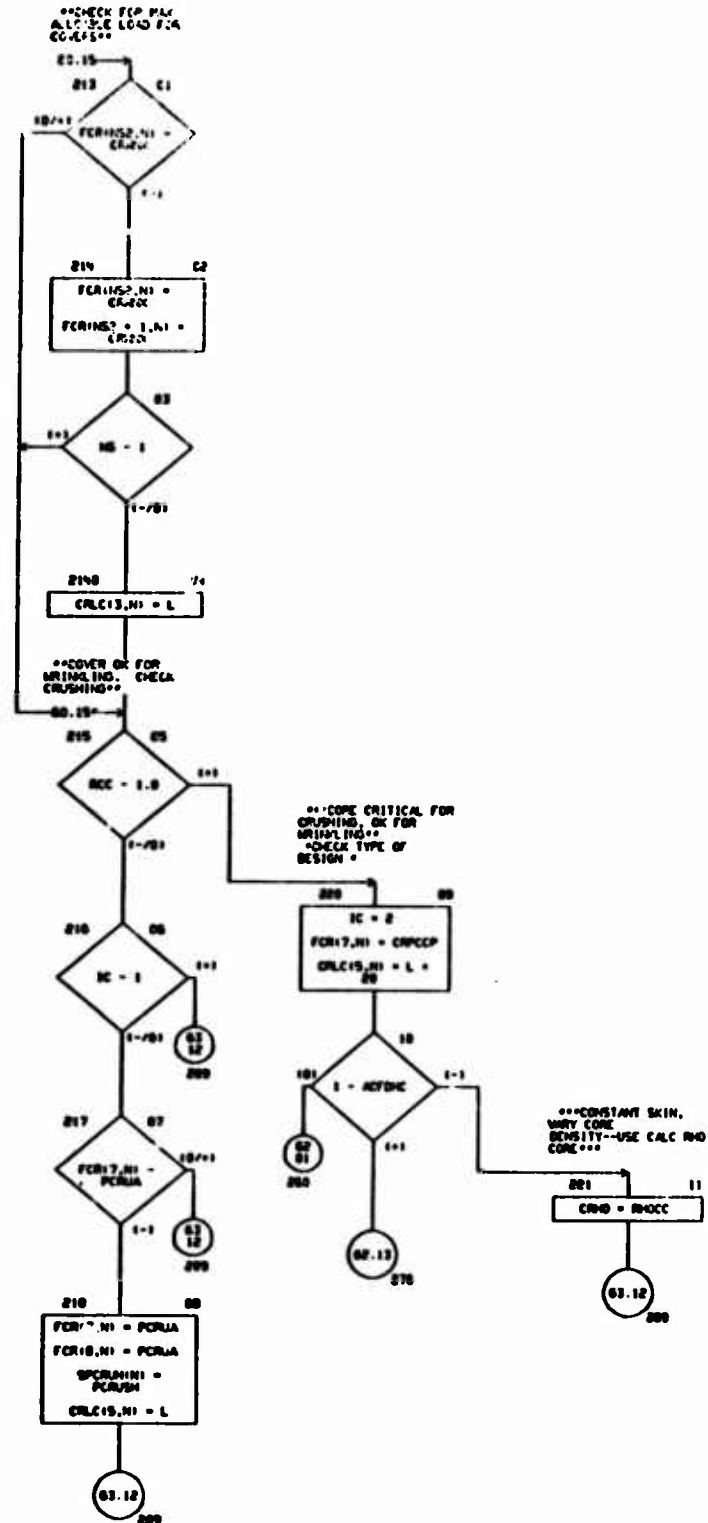


CHART TITLE - SUBROUTINE ACIFDHHH

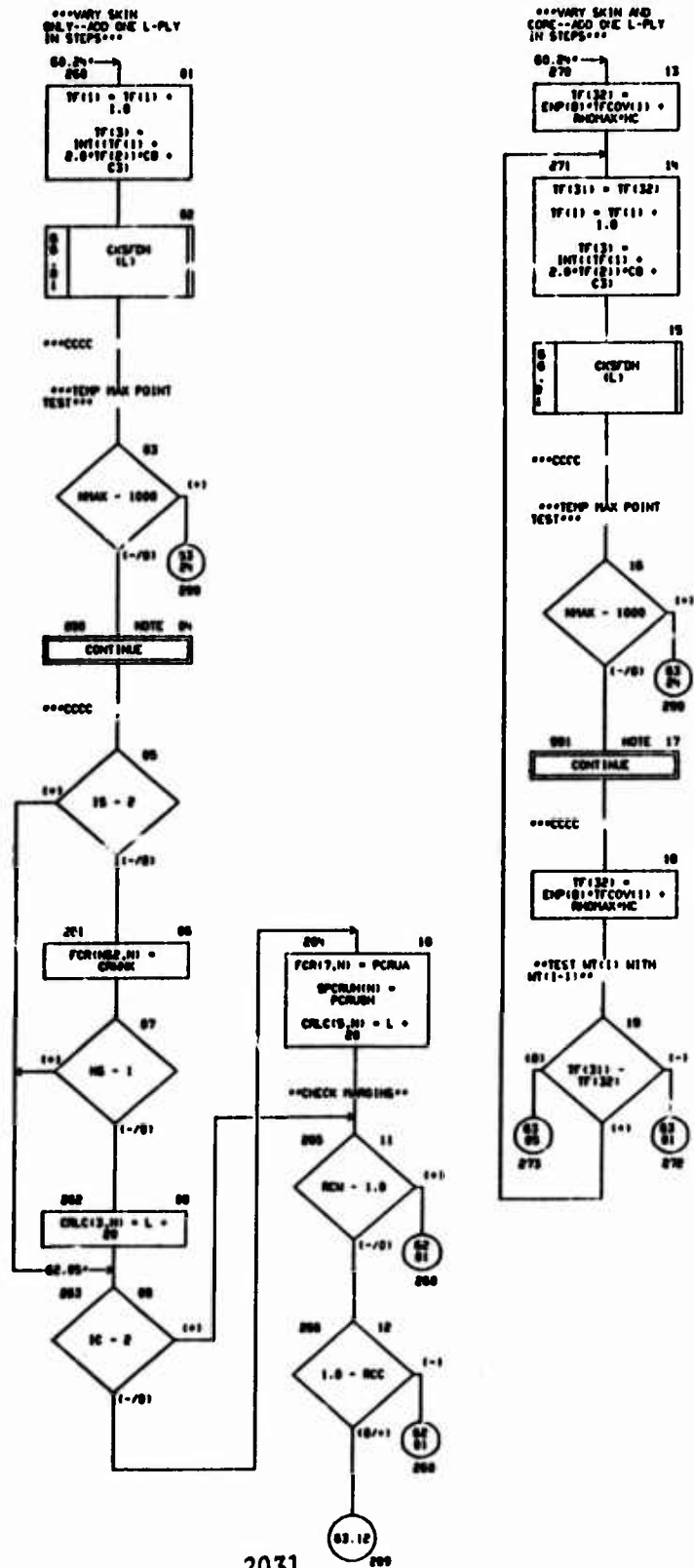


CHART TITLE - SUBROUTINE ACWFENH1

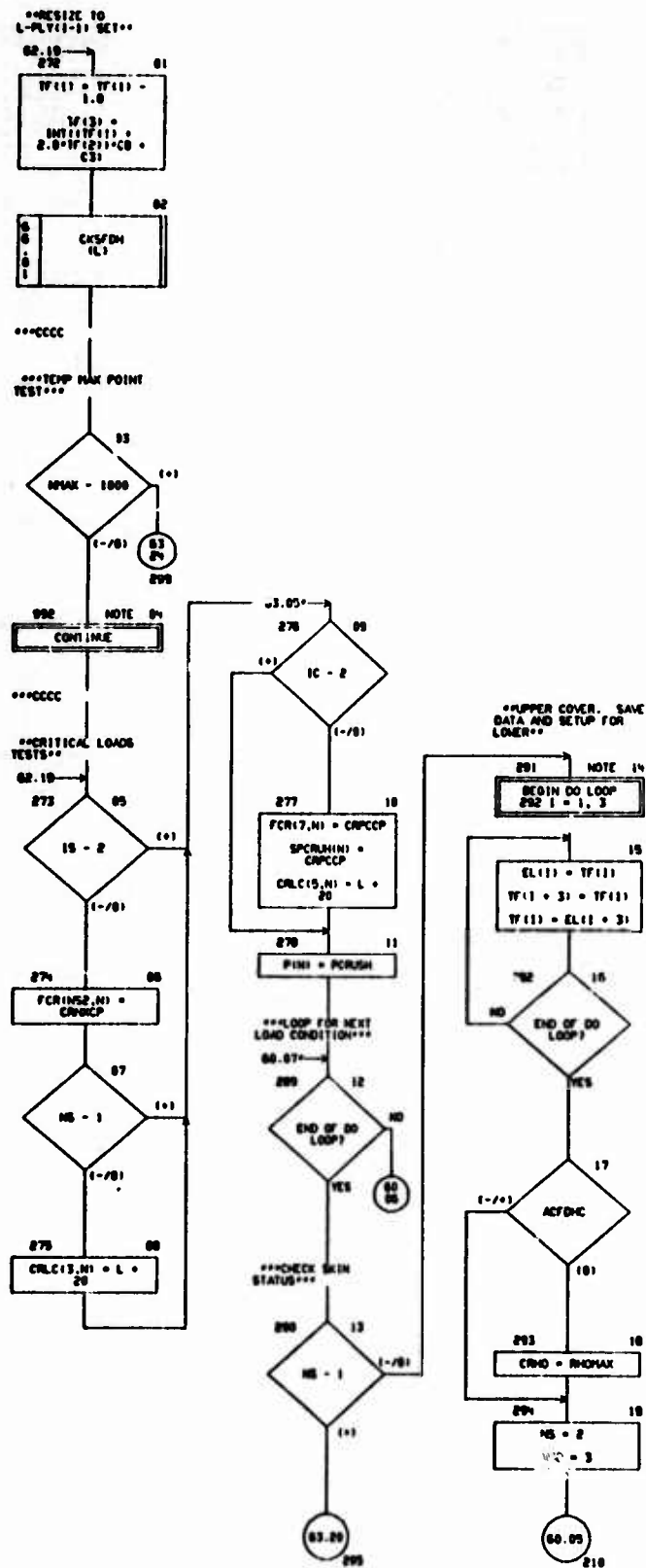


CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON (ZC60),D(2C60),CD(200),ND(100),TH(900),CT(2040)
DIMENSION EXP(5),TF(16),ENC(3),
EL(15),END(5,20),
STRESS(6,11,20),CRLC(7,11),SPCRUH(11),P(20),
PCR(10,11),M(2,11),
CNT(9),TFCOV(2),
SPB(33),SPH(33),
TF(40)
EQUIVALENCE (EXP(1),D(1155)),(ENH(1),D(1104)),(ENC(1),CT(2043)),
(EL(1),T(1300)),(END(1,1),TH(601)),(SPC55(1,1,1),CT(1)),
(CRLC(1,1),T(1501)),(SPCRUH(1),T(1632)),(P(1),T(1836)),
(PCR(1,1),T(1100)),(CNT(1),T(154)),(C3,CNT(13)),(C6,CNT(23)),
(M(1,1),CT(193)),
(SPB(1),T(1232)),(SPH(1),T(1255)),
(ACFPMC,D(1434)),(ILC/SE,ND(14))
EQUIVALENCE (TF(1),T(2021)),
(CNK,TF(7)),(CRND,TF(8)),(HCL,TF(9)),(TFCOV(1),TF(10)),
(CRNDK,TF(18)),(PCRUSH,TF(19)),(PCAUA,TF(20)),
(RCH,TF(21)),(RCC,TF(22)),
(RHOCN,TF(23)),(RHOC,TF(24)),(HC,TF(25)),
(CRNDKP,TF(28)),(CRPCCP,TF(29)),
(RNDKX,ND(31)),
(RNDKX,TF(30))

```



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AUTOFLOW CHART SET - SWEEP MINS AND ENDFRAME MODULE - PAGE 05

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*ROUTINE CRSFEM\*\*\*\*\*

\*\*\*STABILITY EVAL FOR FULL DEPTH HC CORE/SKINS - ADV. COMP. ANALYSIS

\*\*\*\*\*

CHART TITLE - SUBROUTINE C55FENHLCAD1

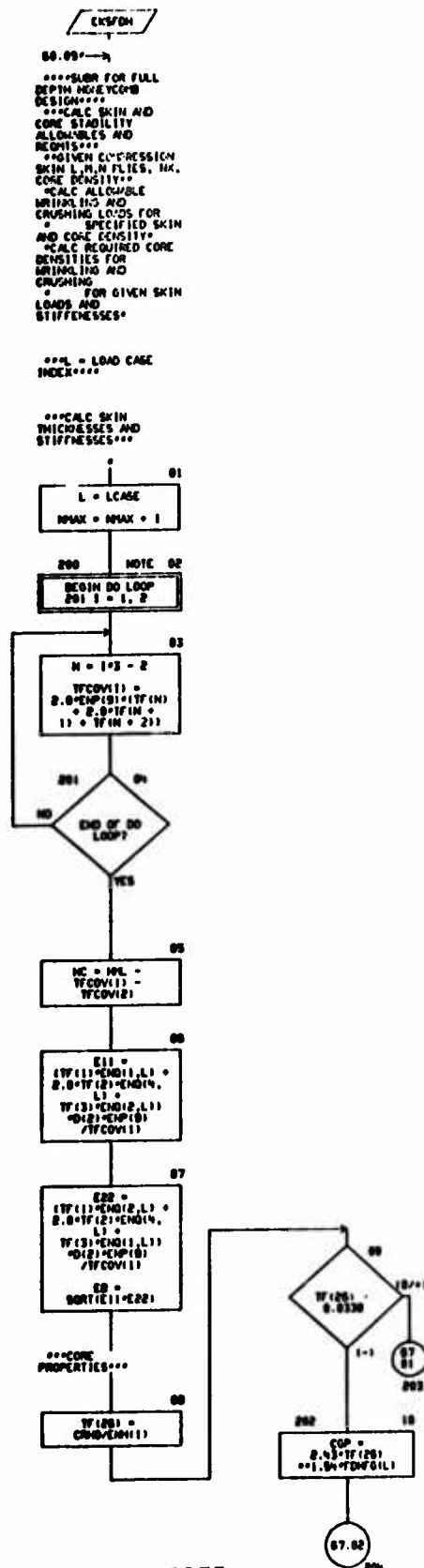


CHART TITLE - SUBROUTINE CRUSHMILCASE1

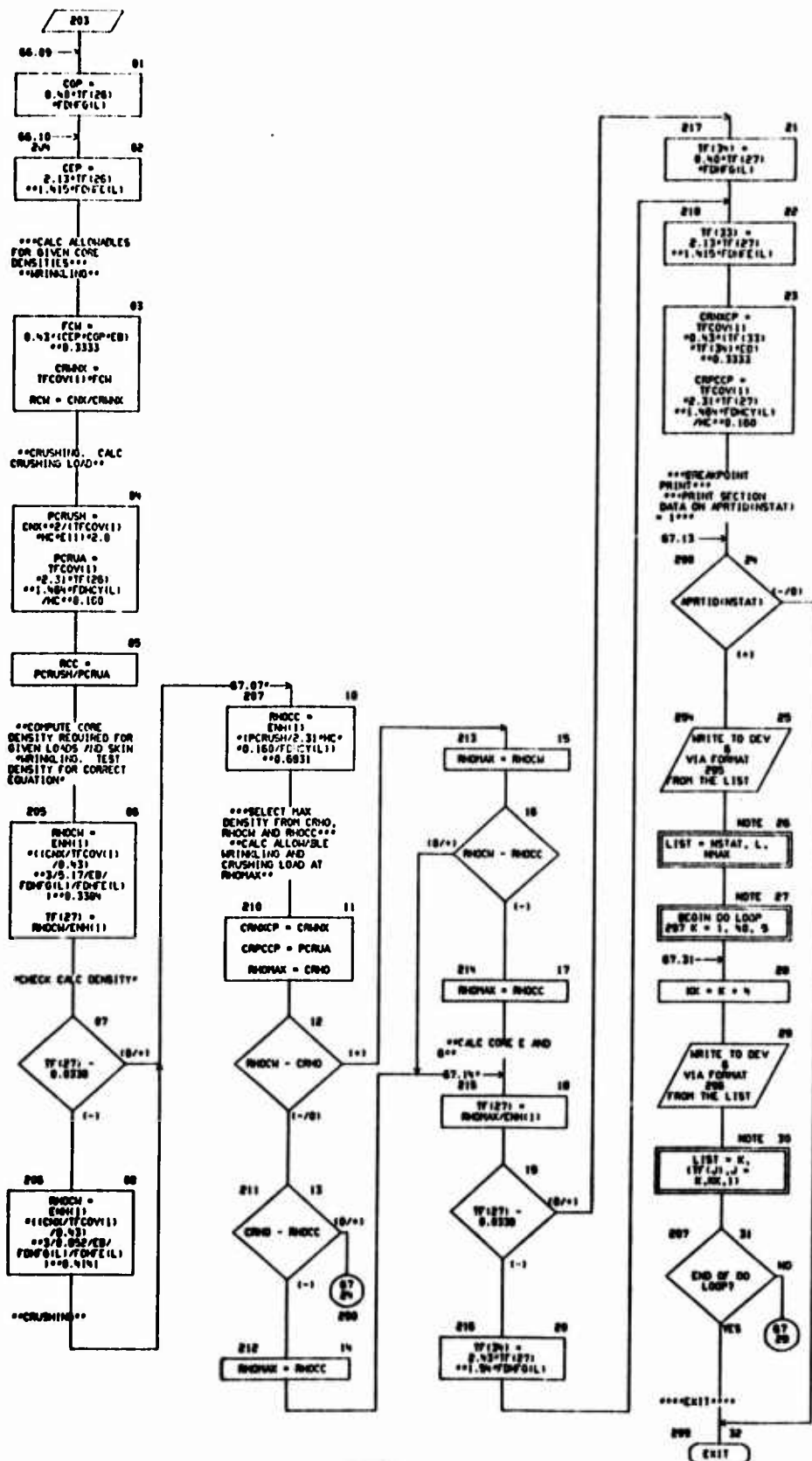


CHART TITLE - WIND-PROCEEDURAL STATEMENTS

```

COMMON T(2000),D(2000),CD(2000),ND(100),TH(900),CT(2049)
DIMENSION EMP(9),ENH(6),EN(3),P(1),
FDHCV(20),FDHFE(20),FDHFG(20),
APRT(10),
TF(40),TFCOV(2)
EQUIVALENCE (EMP(1),D(155)),(ENH(1),D(104)),(EN(1),P(1),TH(60)),
(FDHCV(1),TH(61)),(FDHFE(1),TH(66)),(FDHFG(1),TH(80)),
(TF(1),T(2021)),(EN(7),TF(7)),(CRND,TF(8)),(HPL,TF(9)),
(TFCOV(1),TF(10)),(E1,TF(12)),(E2,TF(13)),(E3,TF(14)),
(CEP,TF(15)),(COP,TF(16)),(FCM,TF(17)),(CRWAK,TF(18)),
(IPCRUSH,TF(19)),(PCRJA,TF(20)),(RCM,TF(21)),(RCC,TF(22)),
(CRBCCP,TF(23)),(CRPCCP,TF(29)),(RMQMAX,TF(30)),
(APRT(1),T(1070)),(HMAX,ND(31)),(HSTAT,ND(55)),
(RMDCM,TF(23)),(CC,TF(24)),(MC,TF(25))
200 FORMAT (1H0/,ENH) ***CKSFDM SUBR -- STA,12,12H LOAD CASE ,12,0H
PT ND=14,ND*** ,/B13 TF 1
200 FORMAT (3X,12,3X,5E10.0)

```

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AUTOFLOW CHART SET - SHEEP WIND AND EXTERNSIDE MODULE - PAGE 83

CHART TITLE - INTRODUCTORY CONTENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE MATH\*\*\*\*\*

\*\*\*SECTION ME PER INCH FOR ADV. COMP. INFORMATION TABLE-BOX\*\*\*

\*\*\*\*\*

CHART TITLE - SUBROUTINE WEIGHLINE1,INITAT1

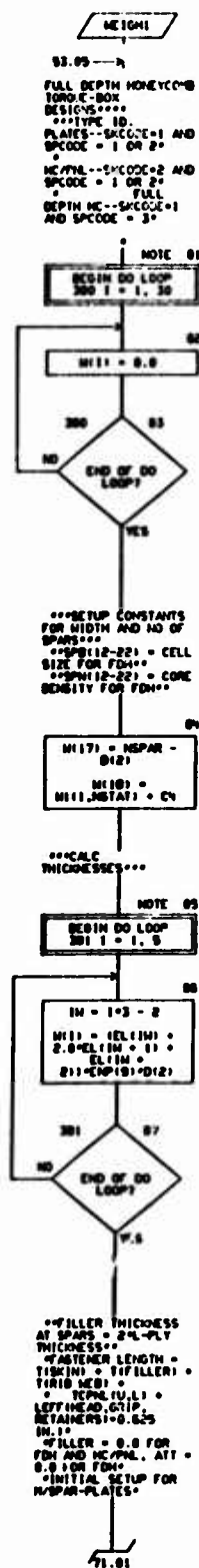
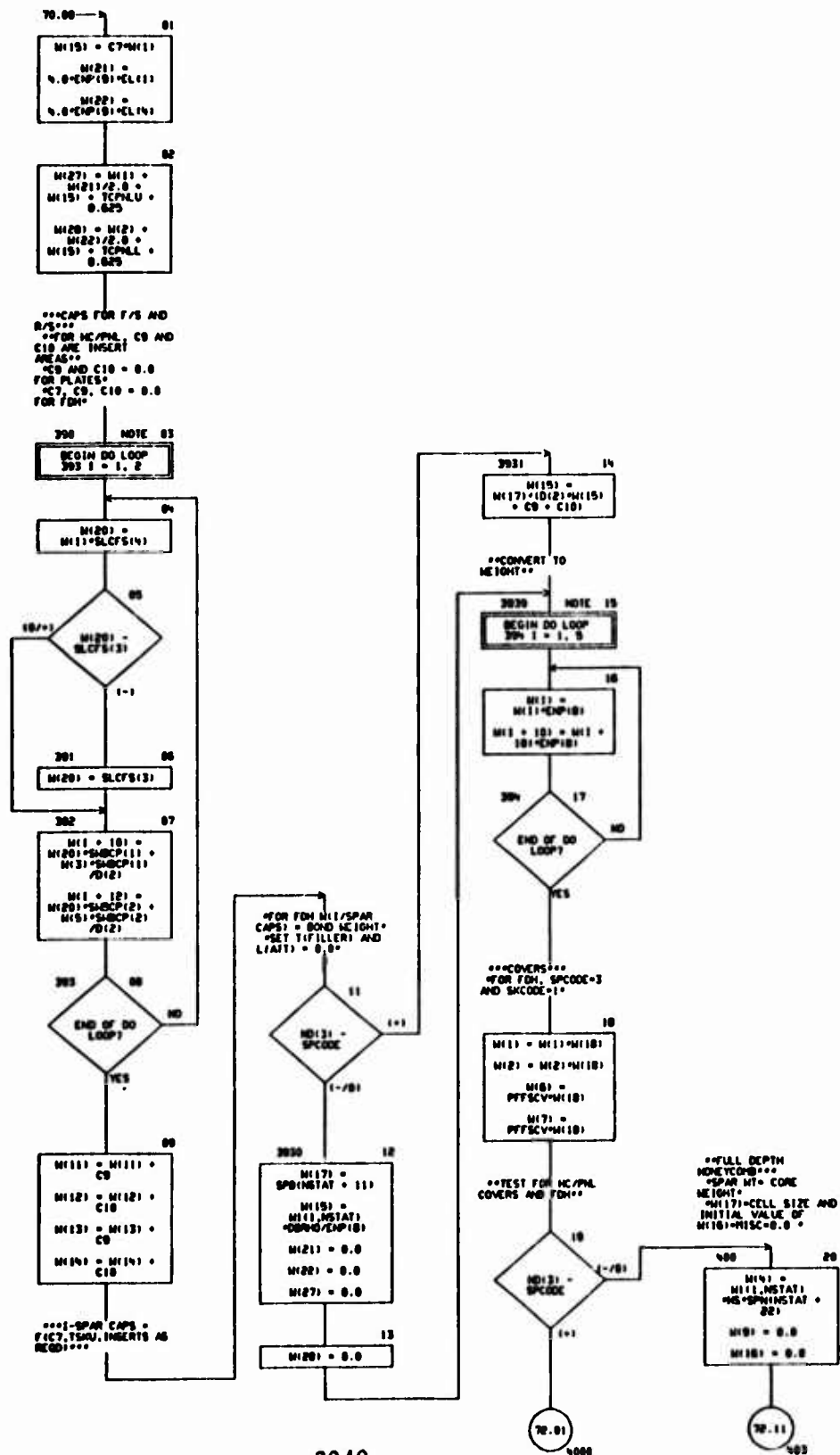


CHART TITLE - SUBROUTINE NEIGHTIME1, NSTAT1



2041

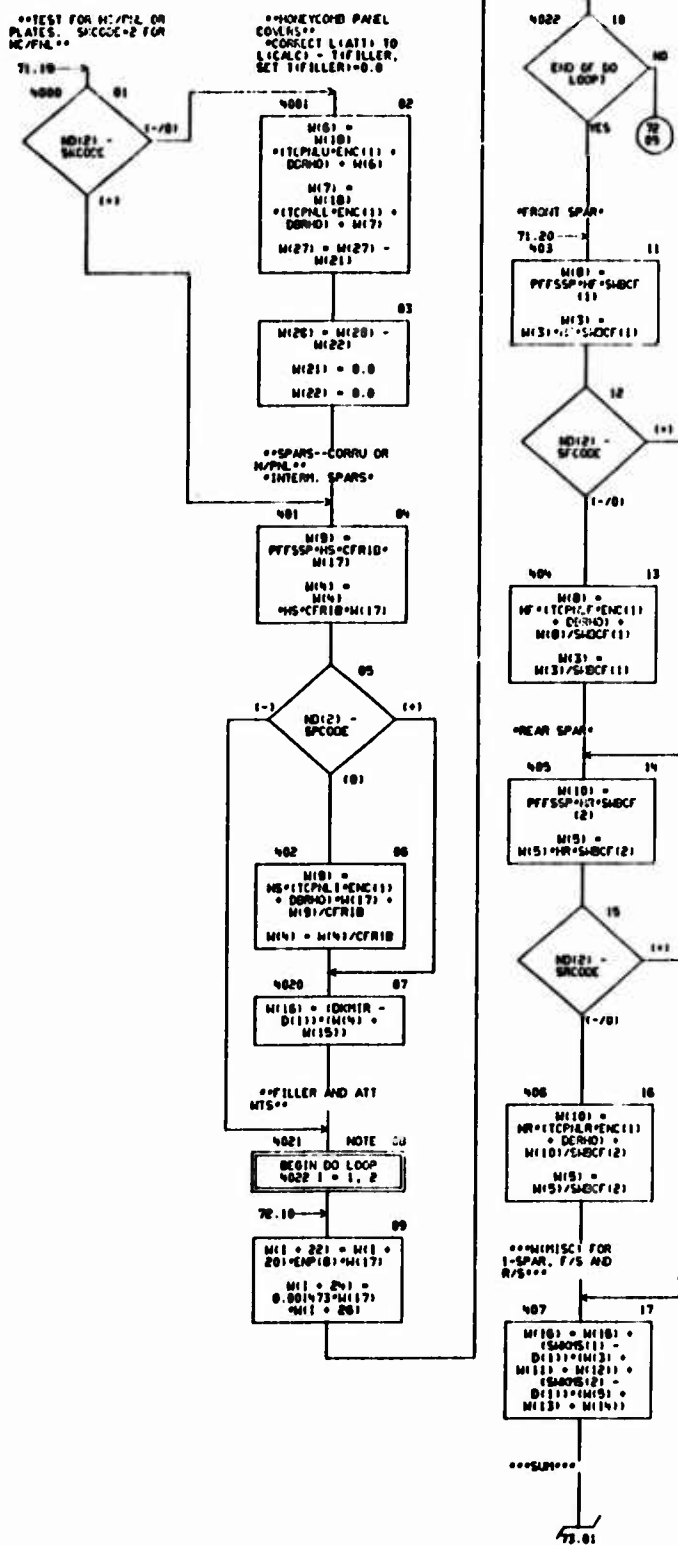




CHART TITLE - SUBROUTINE NEIGHING, NSTAT

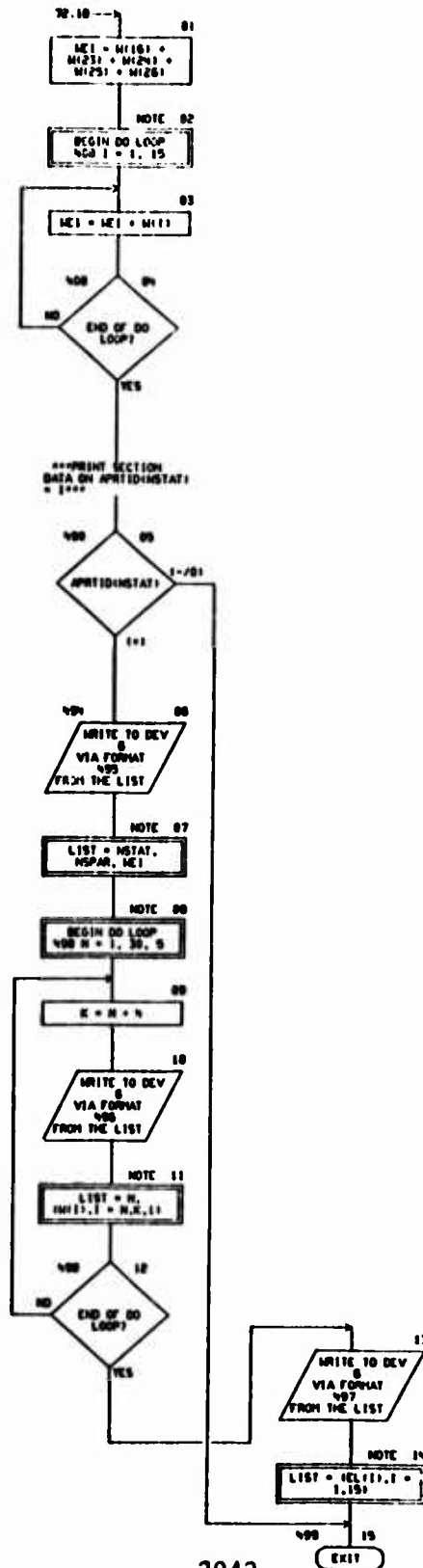


CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T101001
DIMENSION D1200(1),CT1204(1),ND1100(1),
EMP1(1),ET0101(1),ENC1(1),EL11(1),
M130(1),
SLCFS1(1),S10CP1(1),S10MS1(1),S10CF1(1),
SFB1(1),SFM1(1),
APRT1(1),
M12(1),CNT1(1)
EQUIVALENCE ID1(1),T1206(1),ICT1(1),T1712(1),ID1(1),T1612(1),
IEMP1(1),D1115(1),IENH1(1),D1116(1),IEN1(1),CT1204(1),
IEL1(1),T1130(1),ICNT1(1),T1154(1),IFFFSV,CT1204(1),
IFFFSV,CT1204(1),ICFR1(1),D1404(1),ICFR1(1),D1400(1),ISICF1(1),D1427(1),
ITCPHL,CT1201(1),ITCPHL,CT1301(1),ITCPHL,CT1311(1),
ITCPHL,CT1321(1),ITCPHL,CT1331(1),IC4,CT1141(1),INSPAR,CT1211(1),
MS,CT1241(1),IF,CT1251(1),IF,CT1261(1),
ISFCODE,ND145(1),ISACODE,ND146(1),
M11(1),CT100(1),
ISCODE,ND142(1),ISCODE,ND143(1),
ICB,CT113(1),IC10,CT135(1),IC7,CT122(1),ID21R,D124(1),
ISLCFS1(1),D1147(1),IS10CP1(1),D1423(1),IS10MS1(1),D1410(1),
ISPB1(1),T1123(1),ISPH1(1),T11205(1),
IAPRT1(1),T1107(1)
INTEGER SPCODE,SACODE
INTEGER SF CODE,SACODE
REAL NSPAR
405 FORMAT (24H0 ***EIGH SUBR -- STA,13,BH NSPAR=,F7.1,BH MT/IN=,
406 FB.4,M***, /6H0 M )
406 FORMAT (3X,12,2X,SF12.4)
407 FORMAT (12H0 EL11-15)=,3F5.1,2X,3F5.1,2X,3F5.1,2X,3F5.1,2X,3F5.1,2X,3F5.1)

```

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AUTOFLOW CHART SET - SIZER MIND AND EFFERPAGE NEEDLE - PAGE 75

CHART TITLE - INTRODUCTORY CONTENTS

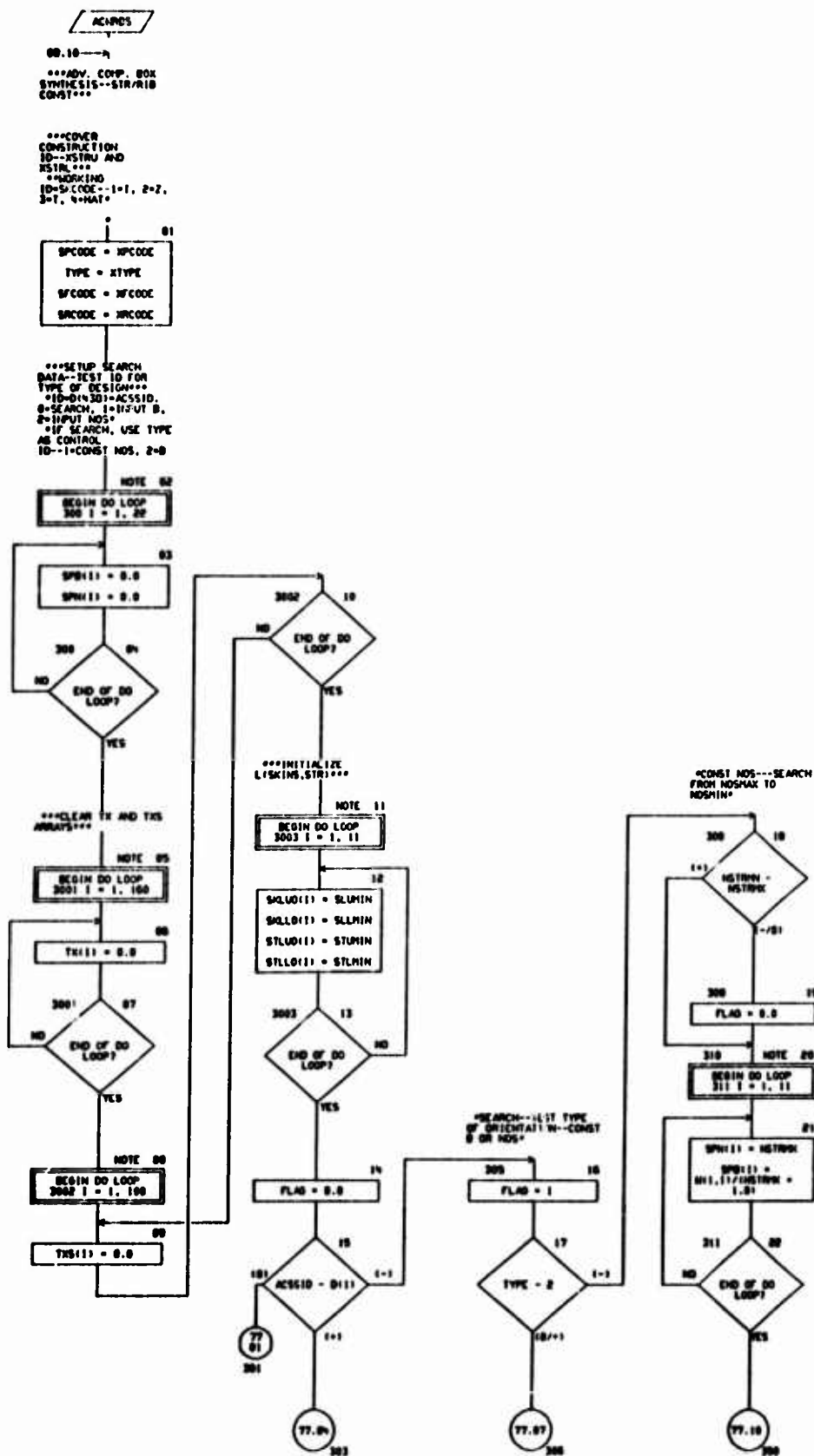
\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ACTUS\*\*\*\*\*

\*\*\*\*\*TORQUE-BOX SYNTHESIS - ADV. COMP. ANALYSIS\*\*\*\*\*

\*\*\*\*\*

CHART TITLE - SUBROUTINE ACNRS



```

graph TD
    subgraph INPUT
        IN1[INPUT NOS] --> IN2[76.10]
        IN2 --> IN3[301]
        IN3 --> IN4[NOTE 01]
        IN4 --> IN5[BEGIN DO LOOP]
        IN5 --> IN6[302 I = 1, 11]
        IN6 --> IN7[303]
        IN7 --> IN8[SPW(I) = DCNS(I)]
        IN8 --> IN9[304]
        IN9 --> IN10[SPW(I) = MIN(I, SPW(I)) - 1.0]
        IN10 --> IN11[305]
        IN11 --> IN12{END OF DO LOOP?}
        IN12 -- NO --> IN7
        IN12 -- YES --> IN13((77.10))
        IN13 --> IN14[350]
    end

    subgraph SEARCH
        S1[CONST B -- SEARCH] --> S2[SPW(I) TO MAX-NO]
        S2 --> S3[ROUND ON NOS]
        S4[76.17] --> S5[306]
        S5 --> S6[NOTE 07]
        S6 --> S7[BEGIN DO LOOP]
        S7 --> S8[307 I = 1, 11]
        S8 --> S9[308]
        S9 --> S10[SM(I) = BEGIN]
        S10 --> S11[309]
        S11 --> S12[SPW(I) = MIN(I, SPW(I)) - 1.0]
        S12 --> S13[310]
        S13 --> S14{END OF DO LOOP?}
        S14 -- NO --> S9
        S14 -- YES --> S15[350]
    end

    subgraph INITIALIZE
        I1[INITIALIZE DATA] --> I2[76.22]
        I2 --> I3[350]
        I3 --> I4[NOTE 11]
        I4 --> I5[BEGIN DO LOOP]
        I5 --> I6[351 I = 1, 14]
        I6 --> I7[352]
        I7 --> I8[EL(I) = 0.0]
        I8 --> I9[353]
        I9 --> I10{END OF DO LOOP?}
        I10 -- NO --> I7
        I10 -- YES --> I11[354]
    end

    subgraph PRINT
        P1[PRINT CONSTANTS] --> P2[ON APR10(12) = 1.0]
        P3[355] --> P4{APR10(12)}
        P4 -- NO --> P5((76.02))
        P5 --> P6[356]
        P6 --> P7[357]
        P7 --> P8[WRITE TO DEV]
        P8 --> P9[358]
        P9 --> P10[VIA FORMAT]
        P10 --> P11[359]
        P11 --> P12[NOTE 16]
        P12 --> P13[BEGIN DO LOOP]
        P13 --> P14[360 K = 1, 30, 5]
        P14 --> P15[361]
        P15 --> P16[J = K + 4]
        P16 --> P17[362]
        P17 --> P18[WRITE TO DEV]
        P18 --> P19[363]
        P19 --> P20[VIA FORMAT]
        P20 --> P21[364]
        P21 --> P22[NOTE 19]
        P22 --> P23[LIST = K,]
        P23 --> P24[365]
        P24 --> P25[366]
        P25 --> P26{END OF DO LOOP?}
        P26 -- NO --> P15
        P26 -- YES --> P27[367]
    end

    subgraph PRINT2
        P28[76.01] --> P29[368]
        P29 --> P30[WRITE TO DEV]
        P30 --> P31[369]
        P31 --> P32[VIA FORMAT]
        P32 --> P33[370]
        P33 --> P34[NOTE 20]
        P34 --> P35[BEGIN DO LOOP]
        P35 --> P36[371 K = 1, 60, 5]
        P36 --> P37[372]
        P37 --> P38[J = K + 4]
        P38 --> P39[373]
        P39 --> P40[WRITE TO DEV]
        P40 --> P41[374]
        P41 --> P42[VIA FORMAT]
        P42 --> P43[375]
        P43 --> P44[NOTE 23]
        P44 --> P45[LIST = K,]
        P45 --> P46[376]
        P46 --> P47[377]
        P47 --> P48[7001, JK = K, J, 11]
        P48 --> P49[76.01]
    end
  
```

CHART TITLE - SHEROUTINE ACHRS5

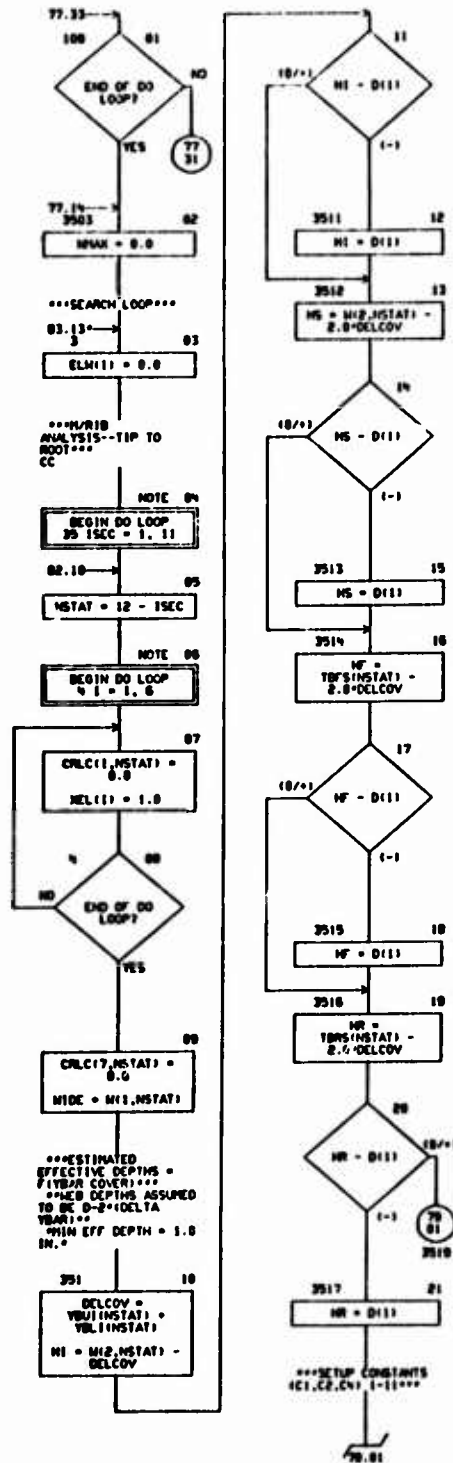


CHART TITLE - SUBROUTINE ACMPUS

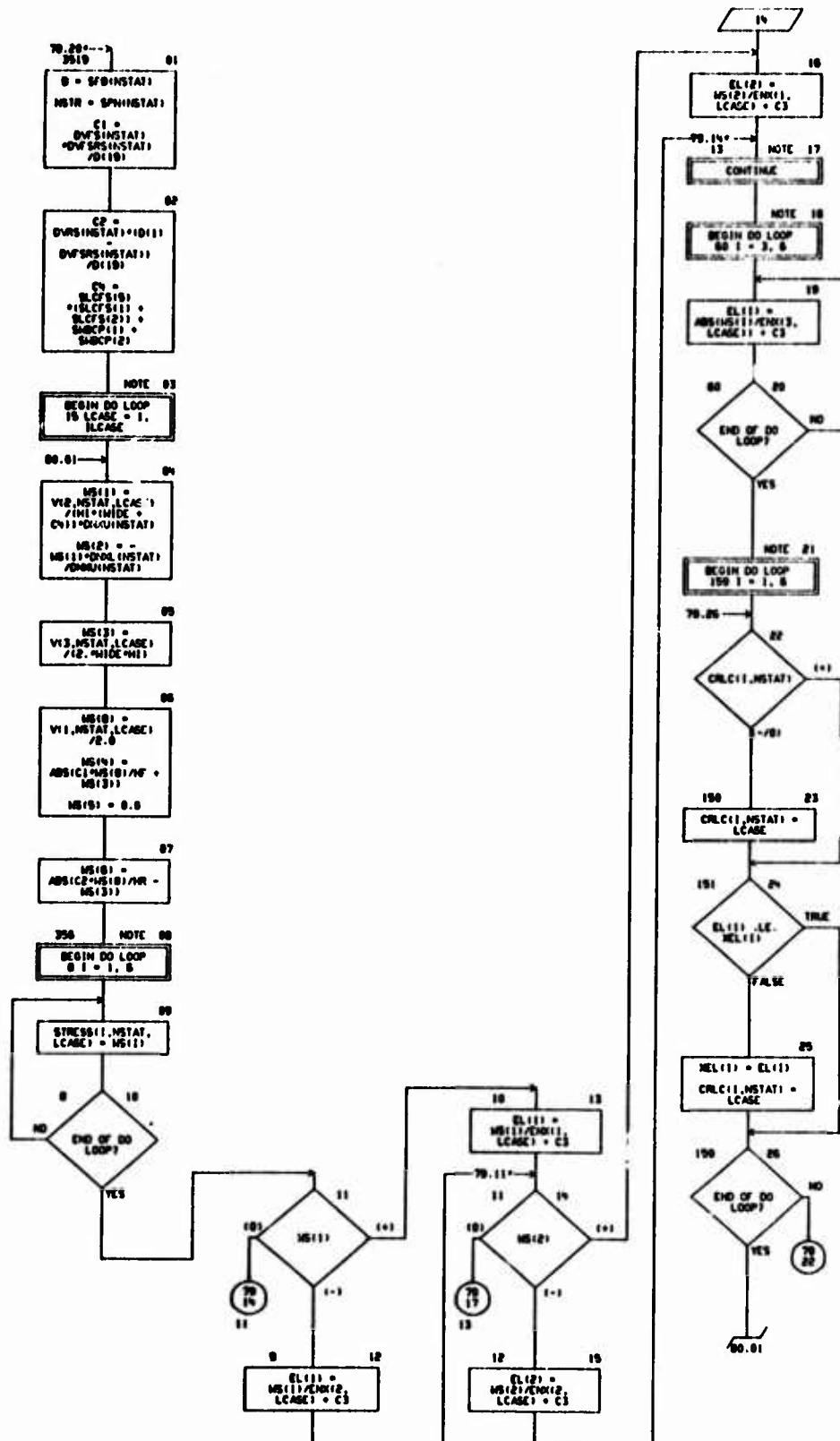


CHART TITLE - SUBROUTINE ACIPBS

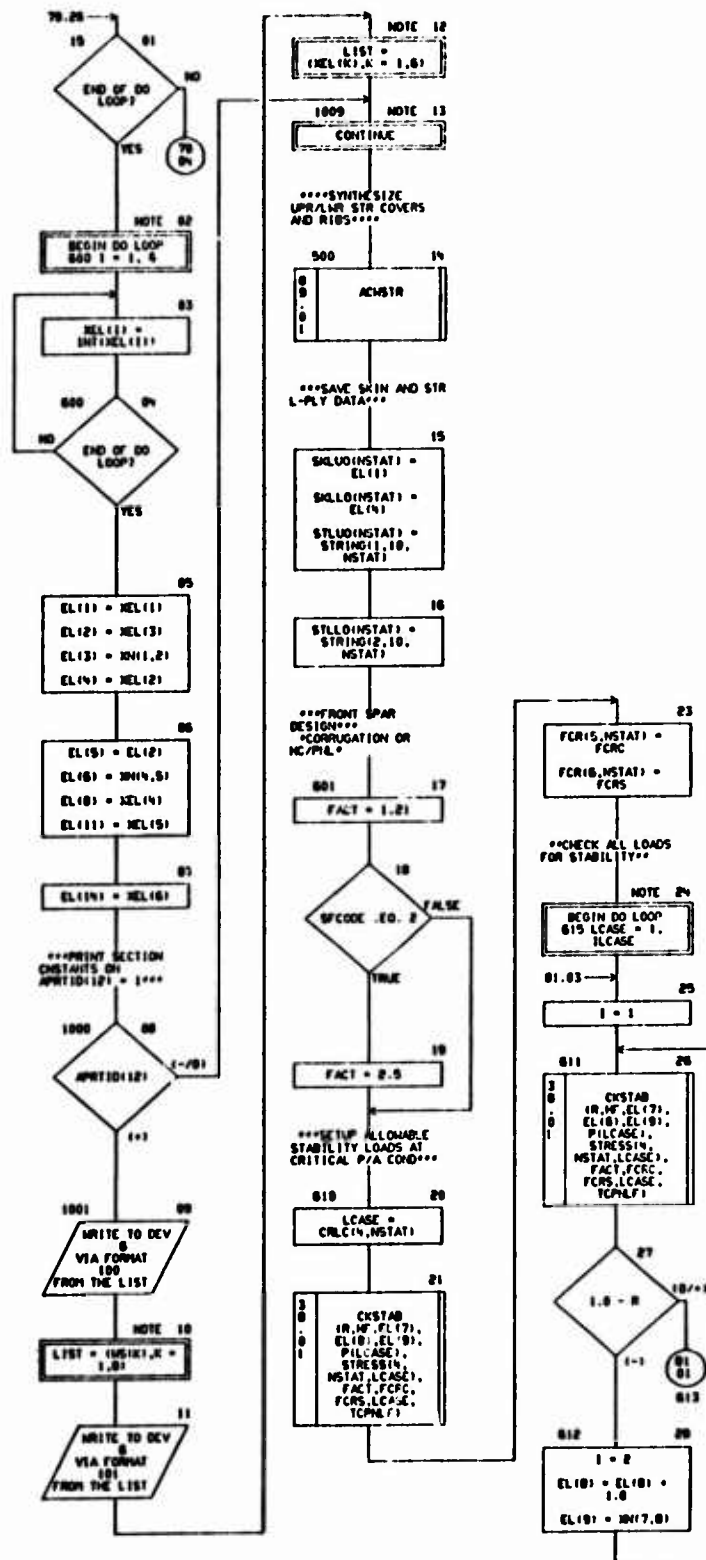




CHART TITLE - SUBROUTINE ACSES

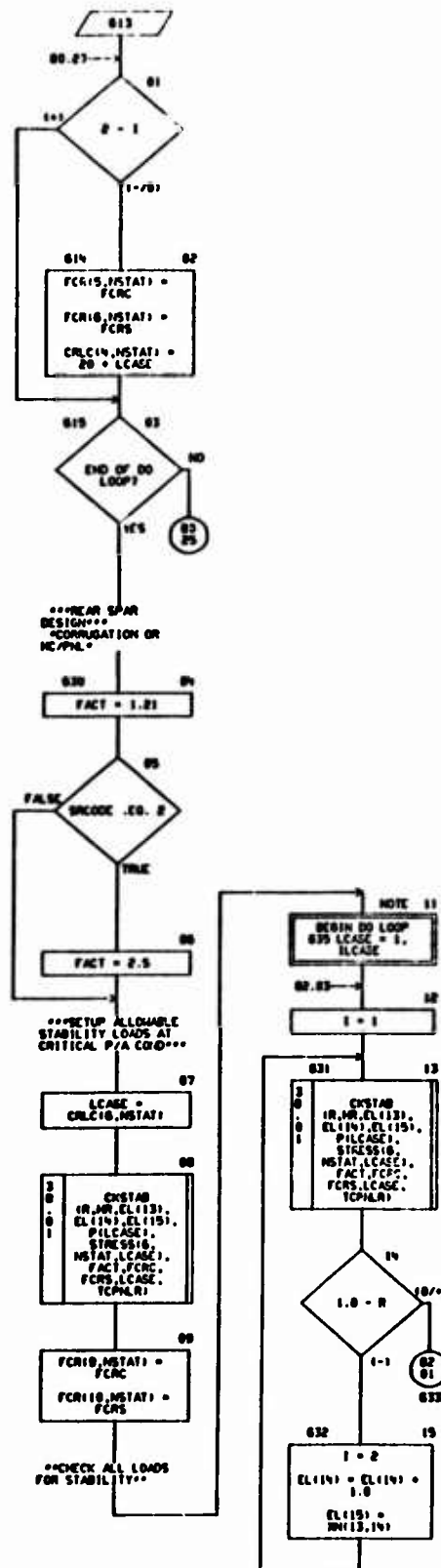


CHART TITLE - SURVEILLANCE ALARMS

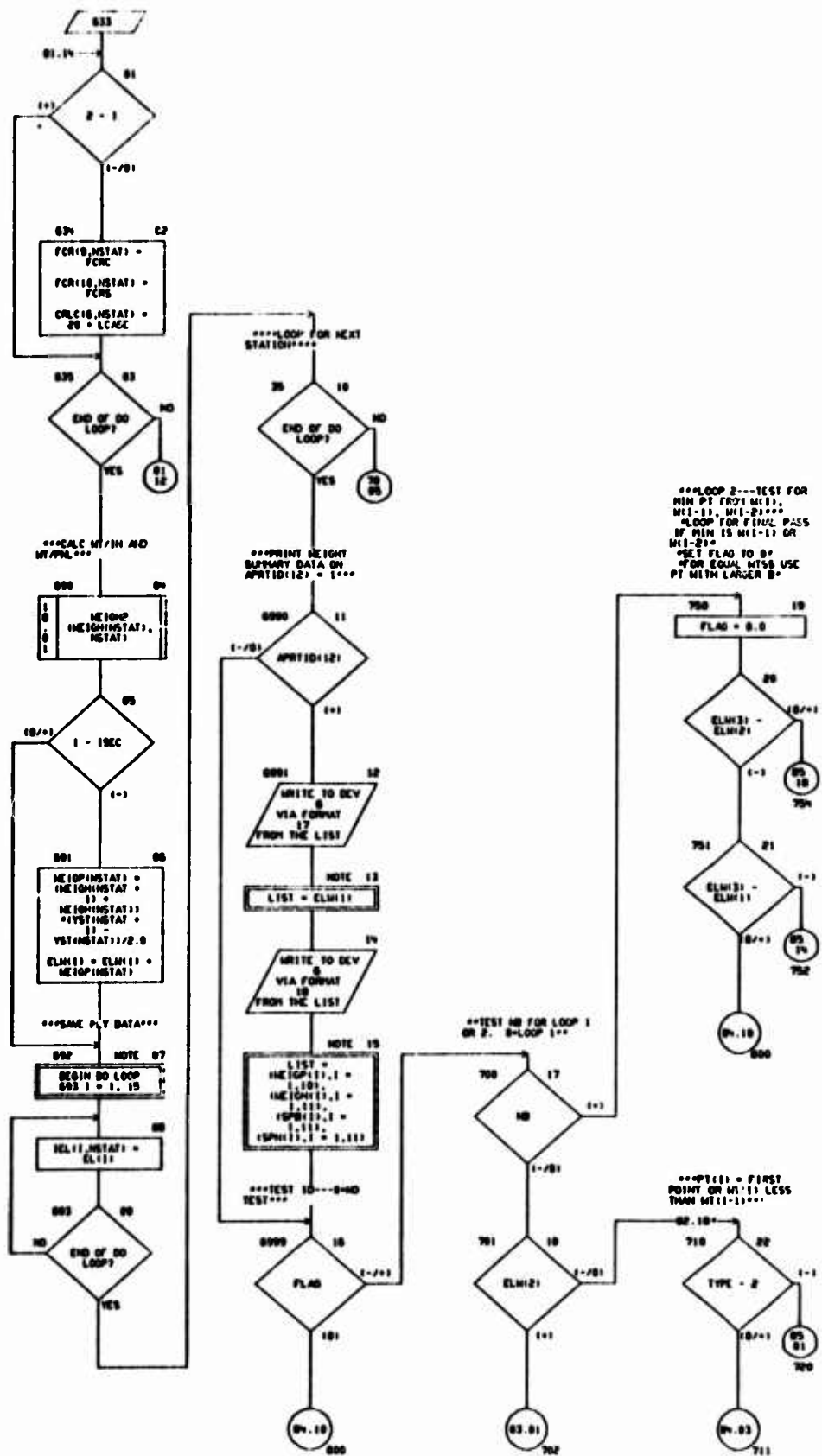
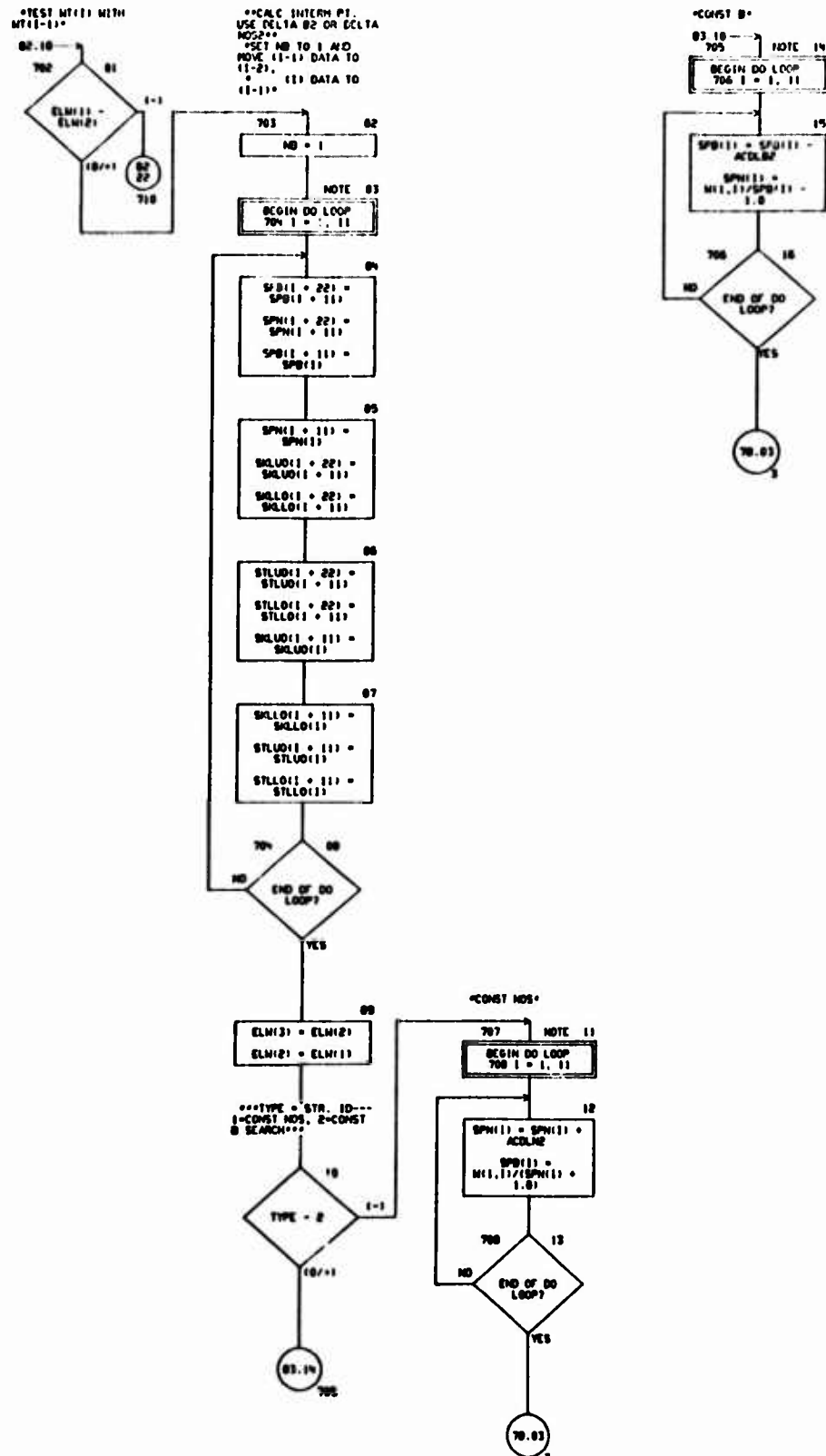


CHART TITLE - SIGNATURE ACRES



```

**CONST 0
SEARCH---TEST IF
P(I) IS AT 0*MAX**

```



CHART TITLE - SLEP WING AC F31

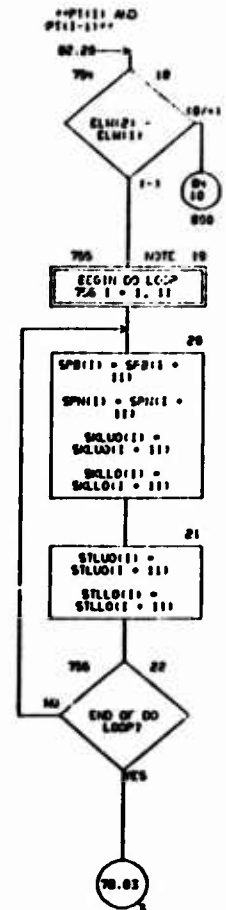
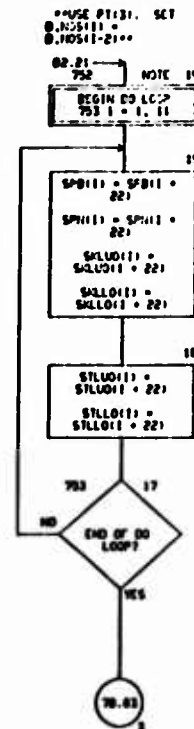
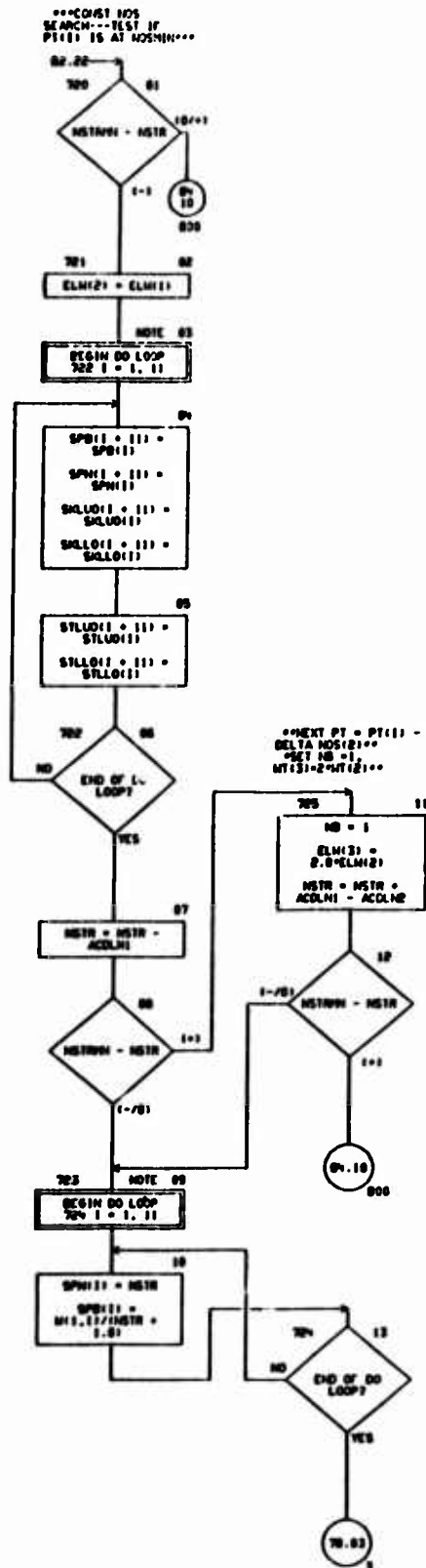


CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T(9169)
DIMENSION D(200),CD(2000),ND(100),TH(900),CT(2048),
EMP(9),ENH(6),CNT(6),
END(5,P0),ENK(3,20),EL(15),NS(8),ENC(3),ELM(32),MEL(10),
P(20),MEIGH(11),SPCRUM(11),FCR(10,11),IEL(15,11),
DWS(11),CWS(11),DFSRS(11),SLCFS(5),
TWS(11),TWS(11),YST(11),
SPH(33),SPH(33),DCBS(11),DCMS(11),MECP(10),
THICK(4),SKLU(33),SKLO(33),STLU(33),STLO(33),
W(2,11),V(3,11,P0),STRESS(6,11,20),CALC(7,11),STRMS(2,10,11),
YBU(11),YC(11),
DOP2(4),DOP3(4),
APRT(10,12),
BMBP(2),DMM(11),DML(11),
TX(100),TX(100)
EQUIVALENCE (D(1),T(2061)),(CD(1),T(4121)),(ND(1),T(6121)),
(TH(1),T(6221)),(CT(1),T(7121)),(THICK(1),T(1016)),
(EMP(1),D(1155)),(ENH(1),D(1184)),
(ENH(1),TH(601)),(ENK(1,1),TH(701)),(ENC(1),CT(2043)),
(EL(1),T(1300)),(NS(1),T(1315)),(CNT(1),T(1541)),
(STRMS(1,1,1),T(1676)),(MEIGH(1),T(1655)),(SPCRUM(1),T(1632)),
(CALC(1,1),T(1660)),(P(1),T(1896)),(IEL(1,1),TH(1)),
(V(1,1),CT(1321)),(W(1,1),CT(1801)),(STRESS(1,1),CT(1)),
(FCR(1,1),T(1100)),(ELM(1),T(1643)),
(ELCASE,ND(41)),(MEL(1),T(1323)),(MECP(1),T(1655)),
(SPCODE,ND(43)),(SF CODE,ND(45)),(SACODE,ND(46)),(SKCODE,ND(42)),
(ITYPE,ND(44)),(MXCODE,CNT(19)),(IMP CODE,CNT(20)),(MFCODE,CNT(27)),
(IXCODE,CNT(26)),(MSTR,CNT(21)),(MSTRU,CNT(11)),(MSTRL,CNT(12)),
(IXTYPE,CNT(10)),(BMHIN,CNT(3)),
(BMMAK,CNT(4)),(BMHIN,CNT(5)),(BMMAK,CNT(6)),(BMHIN,CNT(7)),
(ICI,CNT(11)),(IC2,CNT(12)),(ICS,CNT(13)),(IC4,CNT(14)),
(MSTRMM,CNT(17)),(MSTRUK,CNT(18)),(MS,CNT(24)),
(MF,CNT(25)),(MM,CNT(26)),
(TCPML,CNT(31)),(TCPMLF,CNT(32)),(TCPMLR,CNT(33))
EQUIVALENCE (SPB(1),T(1232)),(SPN(1),T(1805)),
(OCBS(1),D(1705)),(OCHDS(1),D(1701)),
(TWS(1),T(153)),(TWS(1),T(1105)),(YST(1),T(511)),
(DWS(1),D(1842)),(CWS(1),D(1853)),(DFSRS(1),D(1924)),
(SLCFS(1),D(1470)),(ACSSID,D(430)),
(YBU(1),T(679)),(YBL(1),T(680)),
(DOP2(1),D(1367)),(DOP3(1),D(1371)),
(ACDLN1,DOP2(3)),(ACDLN2,DOP2(4)),
(ACDLB1,DOP3(3)),(ACDLB2,DOP3(4))
, (TX(1),CD(1)),(TX(1),CD(161)),(BS,TX(30)),(WIDE,TX(31))
,(INLU(1),CD(261)),(SKLO(1),CD(294)),(STLU(1),CD(327))
,(STLO(1),CD(368)),(BLUMIN,CNT(8)),(SLLMIN,CNT(9))
,(STUMIN,CNT(15)),(STLMIN,CNT(16)),(B,TX(30))
,(BMBP(1),D(1823)),(DMM(1),D(193)),(DML(1),D(1942))
,(APRT(1),T(1070)),(MMAK,ND(31)),(MSTAT,ND(95)),(ISEC,ND(62))
INTEGER SPCODE,SKCODE,TYPE
INTEGER SF CODE,SR CODE
INTEGER FLAG
REAL MSTR
REAL MSTRMM,MSTRUK,IEL
100 FORMAT (7H) MB=,4E16.0,7X,4E16.0)
101 FORMAT (7H) MEL=,8E16.0)
102 FORMAT (7H) EMP=,5E16.0,7X,4E16.0)
103 FORMAT (6H) END)
104 FORMAT (6H) ENK)
105 FORMAT (6H) CNT)
106 FORMAT (1H ,3X,13,5E16.0)
17 FORMAT (15H) CALC MEIGH=F10.4)
18 FORMAT (10H) MPAL= 1079.3,10H) MT/IN= 1179.3,10H) B= 117

```

06/14/74

AUTOFLOW CHART SET - SHEEP WING AND ENTERPAGE MODULE - PAGE 07

CHART TITLE - NON-PROCEDURAL STATEMENTS

0.3.1040 NOS= 1100.3

08/14/79

AUTOFLOW CHART SET - SHEET WING AND ENGINE NOSE - PAGE 60

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*SUBROUTINE ACMSR\*\*\*\*

\*\*\*SKIN-STRIP SECTION OPTIMIZATION - ADV. COMP. ANALYSIS\*\*\*

\*\*\*\*\*



CHART TITLE - S-ROUTINE ACNSTR

ACNSTR

00.14 → 1

\*\*\*SUB FOR COVER  
AND RCD SIZING-M/RIB  
DESIGN\*\*\*

\*\*\*M/RIB STATION  
ANALYSIS -- TIP TO  
ROOT\*\*\*

\*\*\*SETUP INITIAL EST  
FOR SKIN AND STR  
L-PLIES\*\*\*

\*\*\*SELECT STATION  
STARTING L-PLIES AS  
LARGER OF--

- 1. FINAL SKIN/STR  
L-PLIES FOR EST PASS
- 2. CURRENT PASS  
STATION--IF FINAL  
L-PLIES LESS 1 OR IF  
CURRENT TOTAL  
ST PLIES LESS THAN  
OUTDO

START AT BASIC  
MIN L-PLIES FOR  
CURRENT STATION

3. MIN SPECIFIED  
L-PLIES--SETUP IN  
L-PLY ARRAYS

100 → 01

SKINUP =  
SKINDOWNSTAT

SKINUP =  
SKINDOWNSTAT

STRUP =  
STRDOWNSTAT

STRUP =  
STRDOWNSTAT

\*\*\*TEST FOR TIP  
STATION\*\*\*

11 - INSTAT

1-101

\*\*\*INITIAL SKIN DELTA  
L-PLIES = 0.0 FOR TIP  
STATION\*\*\*

101 → 03

THS(1) = 0.0

THS(2) = 0.0

00.04 → 102

\*\*\*STATIONS 1-10.  
CHECK FOR OFFED L-PLY  
VALUES FOR  
CURRENT STATION  
STARTING VALUES\*\*\*

00.02 → 102

SLAD = THS(12) -  
1.0

SLTO = THS(13) -  
1.0

SLDO = THS(11) -  
EL(1)

101 → 05

SLDO

1-101

103 → 06

SKINUP - SLAD

10-1

104 → 07

SKINUP = SLAD

105 → 08

STRUP - SLTO

10-1

106 → 09

STRUP = SLTO

00.05 → 107

10

SLAD = THS(17) -  
1.0

SLTO = THS(18) -  
1.0

SLDO = THS(16) -  
EL(4)

11 → 11

SLDO

1-101

108 → 12

SKINUP - SLAD

10-1

109 → 13

SKINUP = SLAD

110 → 14

STRUP - SLTO

10-1

111 → 15

STRUP = SLTO

00.03 → 108

16

112 → 17

STRUP = SLTO

\*\*\*COVER SIZING  
LOOP--INITIAL COVER =  
UPPER. 1SKIN=1\*\*\*

1SKIN = 1

1STIFF = 1STRU

BRIDN = BRUAX

BRIDN = BRUIN

ELL = EL(1)

EPD = EL(2)

END = EL(3)

STRLO = STRUP

SKINL = SKINUP

SKINL = THS(21)

00.01 → 108

100

CHART TITLE - SCHEDULE ACMSIR

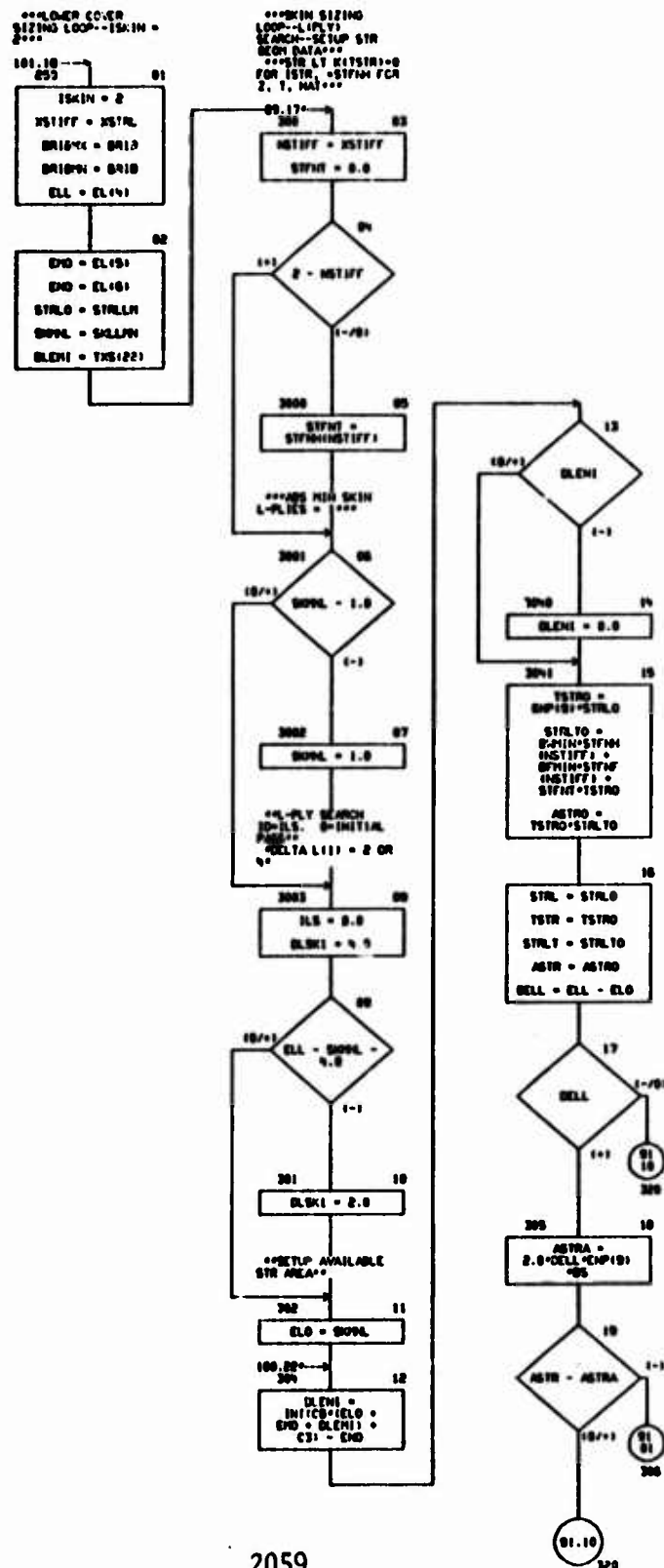


CHART TITLE - SUBROUTINE ACNSTR

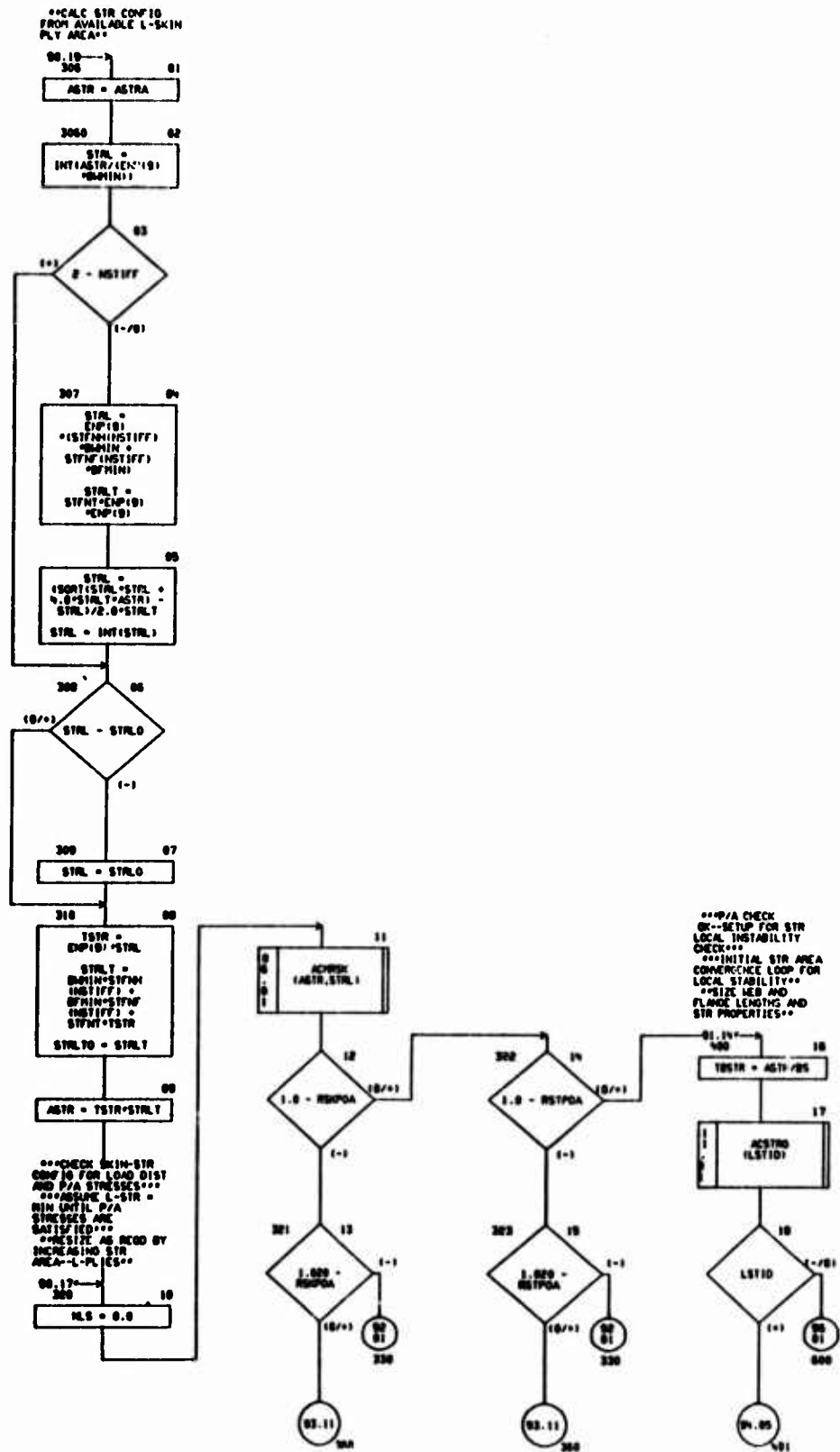
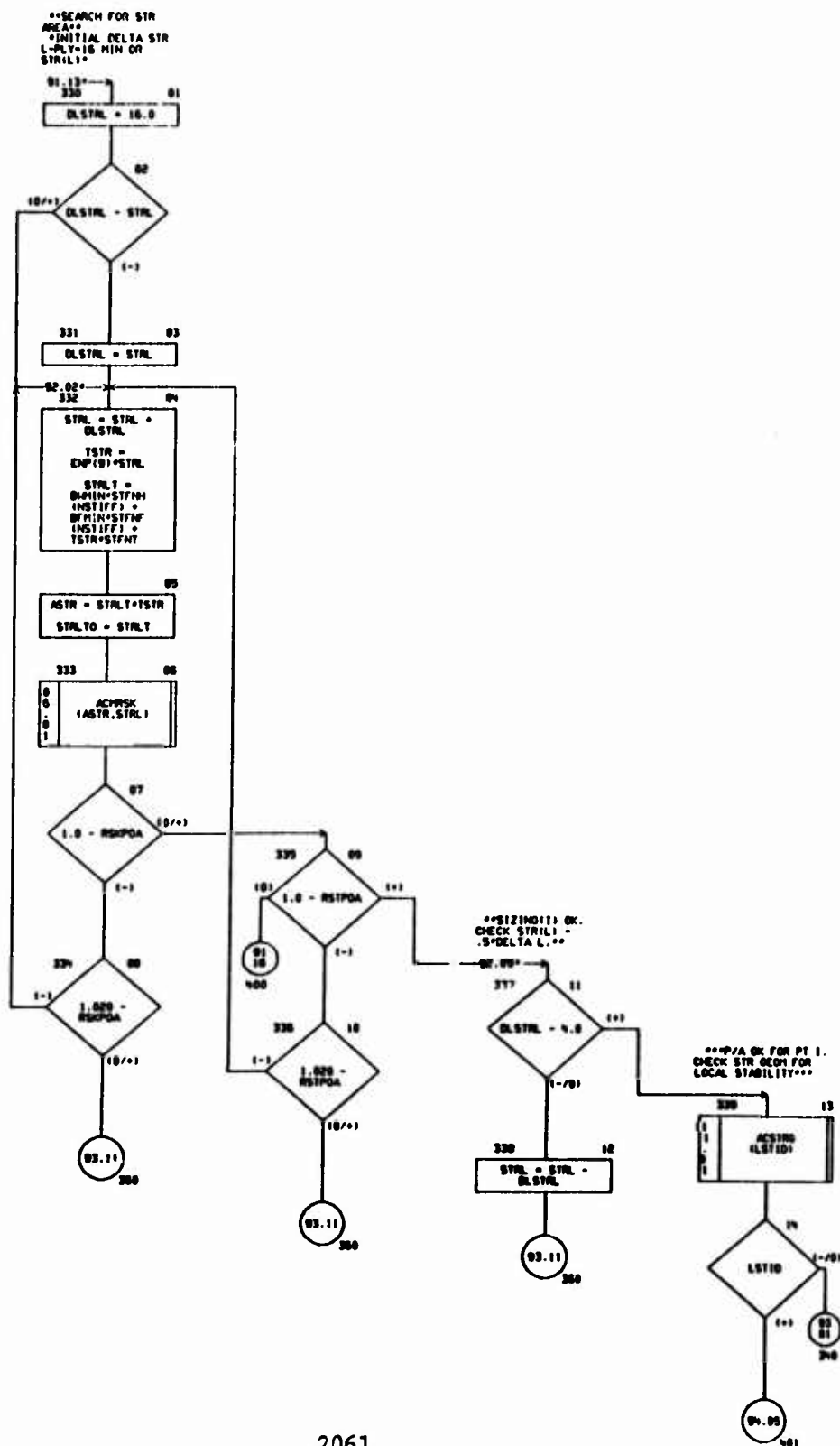


CHART TITLE - SUBROUTINE ACHSIA

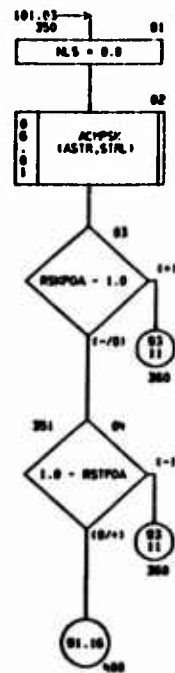


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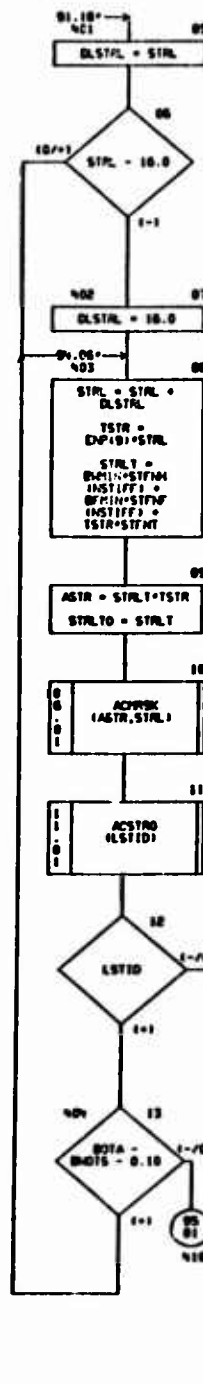
graph TD
    0214[02.14] --> 01
    01[01  
DLSTL = INT(DLSTL/2.0)  
STRL = STRL - DLSTL] --> 02
    02[02  
TSTR = EXP(10)*STRL  
STPLT = B*MIN(STF10/(INSTIFF) +  
B*MIN(STF10/(INSTIFF) +  
TSTR*STF10)  
ASTR = STPLT*TSTR] --> 03
    03[03  
STRL0 = STPLT] --> 04
    04[04  
ACHRSK  
ASTR, STRL] --> 05
    05{05  
1.0 - RSTPOA  
(0/+)} -- 1-1 --> 06
    05 -- 0/+ --> 07
    06{06  
1.000 - RSTPOA  
(0/+)} -- 1-1 --> 07
    06 -- 0/+ --> 011((02.11))
    07{07  
1.0 - RSTPOA  
(0/+)} -- 1-1 --> 08
    07 -- 0/+ --> 010((01.10))
    08{08  
1.000 - RSTPOA  
(0/+)} -- 1-1 --> 09
    08 -- 0/+ --> 07
    09[09  
DLSTL = INT(DLSTL/2.0)  
STRL = STRL + DLSTL] --> 02
    10[10  
DLSTL = INT(DLSTL/2.0)  
STRL = STRL + DLSTL] --> 02
    11[11  
NLS = 1] --> 12
    12[12  
STRL = STPL + 2.0] --> 13
    13[13  
TSTR = EXP(10)*STRL  
STPLT = B*MIN(STF10/(INSTIFF) +  
B*MIN(STF10/(INSTIFF) +  
TSTR*STF10)  
ASTR = TSTR*STPLT] --> 14
    14[14  
STRL0 = STPLT] --> 15
    15[15  
ACHRSK  
ASTR, STRL] --> 16
    16{16  
RSTPOA - 1.0  
(-/+)} -- 1-1 --> 17
    16 -- 0/+ --> 23
    17{17  
1.0 - RSTPOA  
(0/+)} -- 1-1 --> 18
    17 -- 0/+ --> 23
    18{18  
2 - NLS  
(-/+)} -- 1-1 --> 19
    18 -- 0/+ --> 23
    19[19  
STRL = STRL - 1.0] --> 20
    20{20  
NLS = 1  
(-/+)} -- 1-1 --> 21
    20 -- 0/+ --> 23
    21[21  
STRL = STRL - 1.0] --> 22
    22[22  
NLS = 2] --> 23
    23[23  
STRL = STRL - 1.0] --> 24
    24[24  
STRL = STRL - 1.0] --> 25
    25[25  
02.12] --> 26
    26[26  
02.13] --> 26
  
```

CHART TITLE SUBROUTINE ACNSTR

405 = SEARCH  
CONTROL ID. 0 = FIRST  
PASS  
1 = RESIZING BY  
L-PLY INCREASE BY 2  
2 = RESIZING BY  
L-STR DECREASE BY 1



401 INITIAL DELTA  
L-PLY = 16 CM STR  
L(1)



405 STR OK. CHECK AT  
DELTA L/D

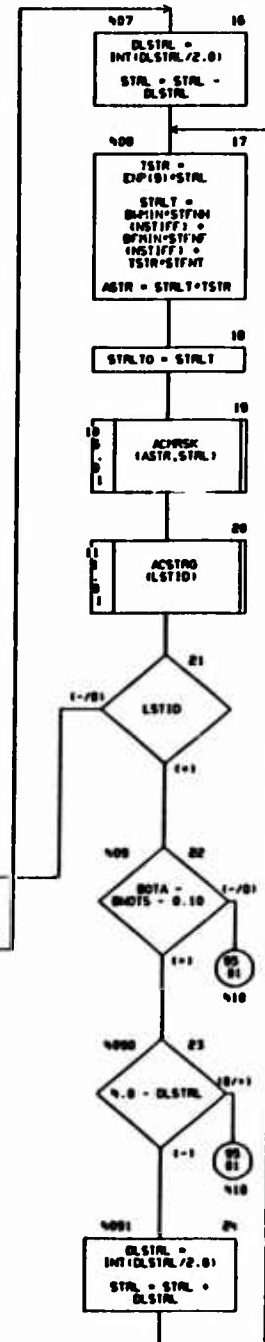
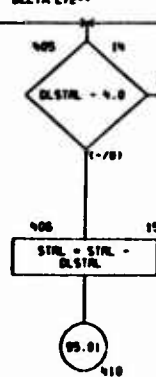


CHART TITLE - SUBROUTINE ACWSTR

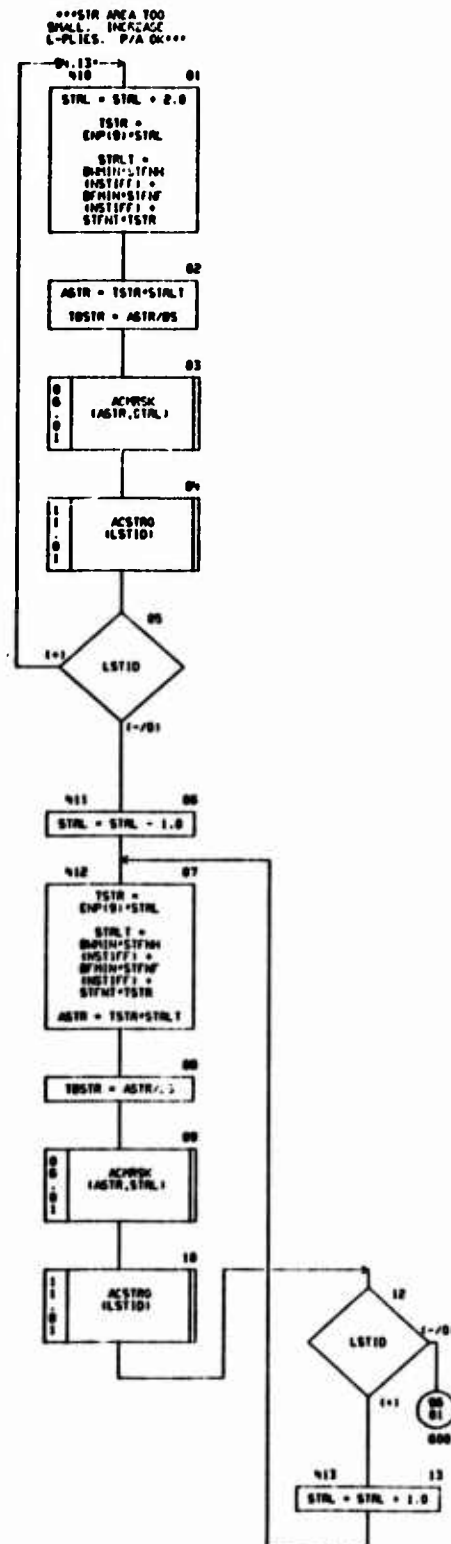
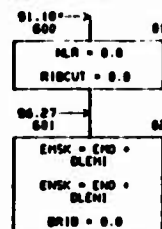
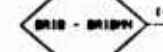
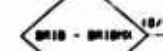
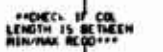
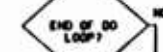
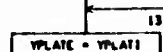
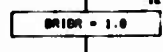
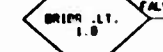
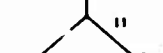
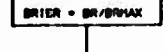
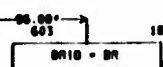
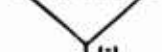
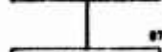
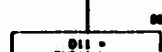
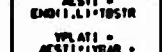
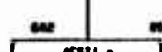
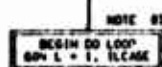


CHART TITLE - SUBROUTINE ACNSTR

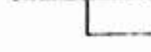
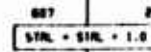
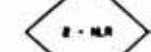
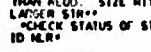
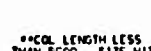
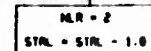
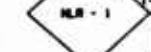
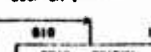
\*\*\*CHECK GENL  
INSTABILITY AND SIZE  
RIBS FOR CRUSHING  
AND COLUMN  
SUPPORT\*\*\*  
\*\*STRINGER AREA  
CONTROL ID=MLR\*\*



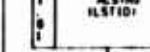
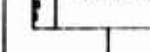
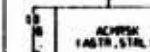
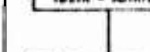
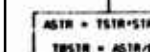
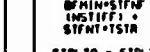
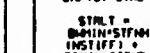
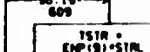
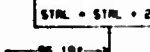
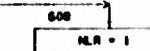
\*\*MIN COL LENGTH FOR  
ALL LOADS\*\*



\*\*COL LENGTH OK.  
CHECK STATUS OF STR  
ID MLR\*\*  
EXIT ON 0 OR 2.  
LOOP ON 1\*\*



\*\*COL LENGTH OK.  
CHECK STATUS OF STR  
ID MLR\*\*  
EXIT ON 0 OR 2.  
LOOP ON 1\*\*



\*\*COL LENGTH OK.  
CHECK STATUS OF STR  
ID MLR\*\*  
EXIT ON 0 OR 2.  
LOOP ON 1\*\*



\*\*COL LENGTH OK.  
CHECK STATUS OF STR  
ID MLR\*\*  
EXIT ON 0 OR 2.  
LOOP ON 1\*\*





CHART TITLE - SUBROUTINE AC2STR

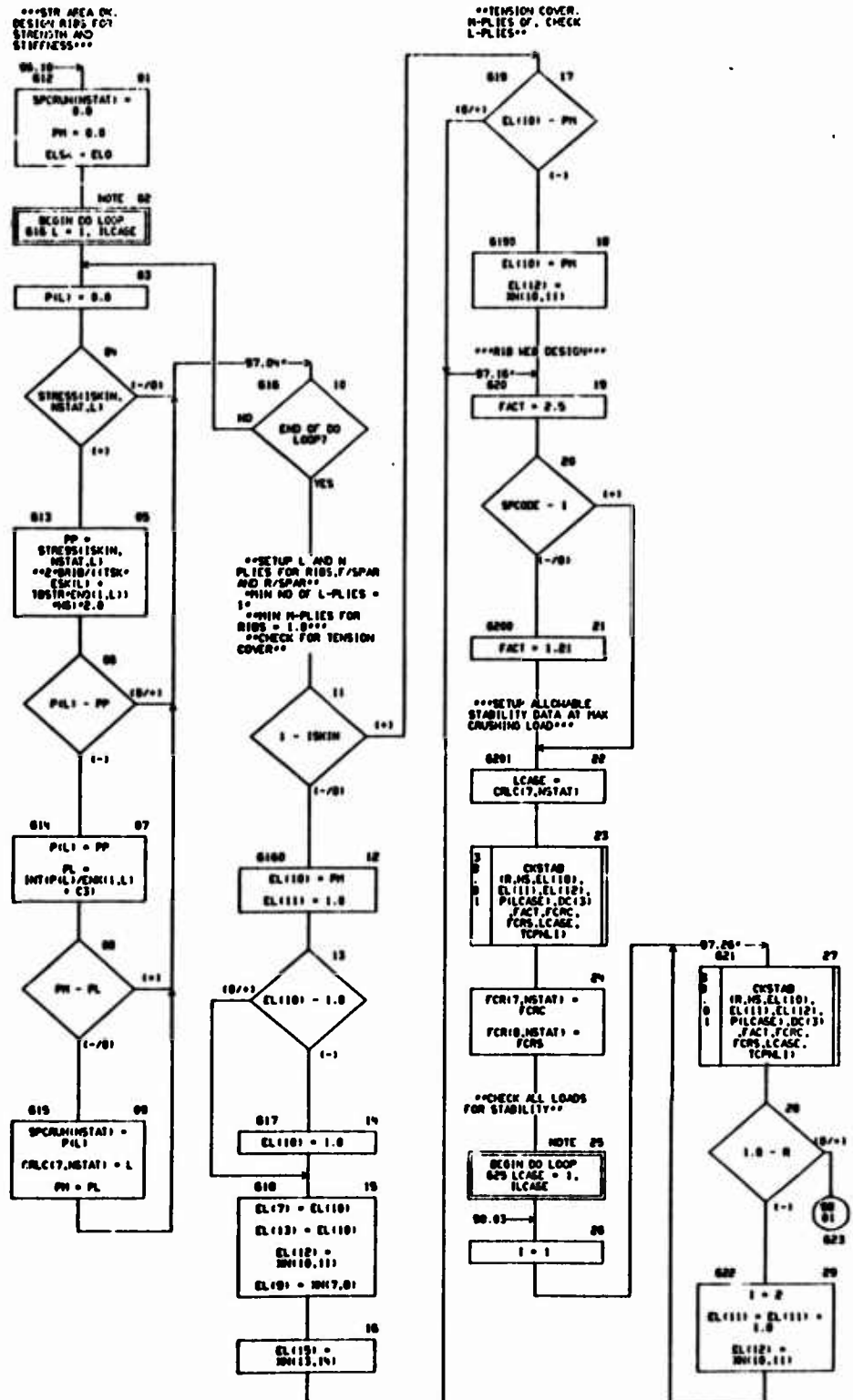
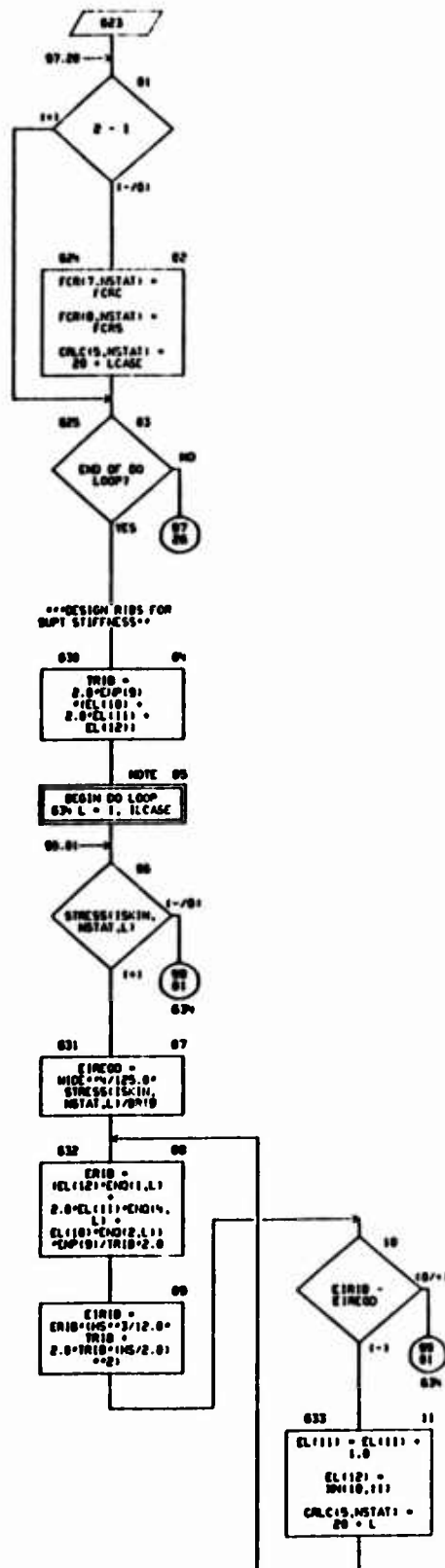


CHART TITLE - SUBROUTINE ACWSTA

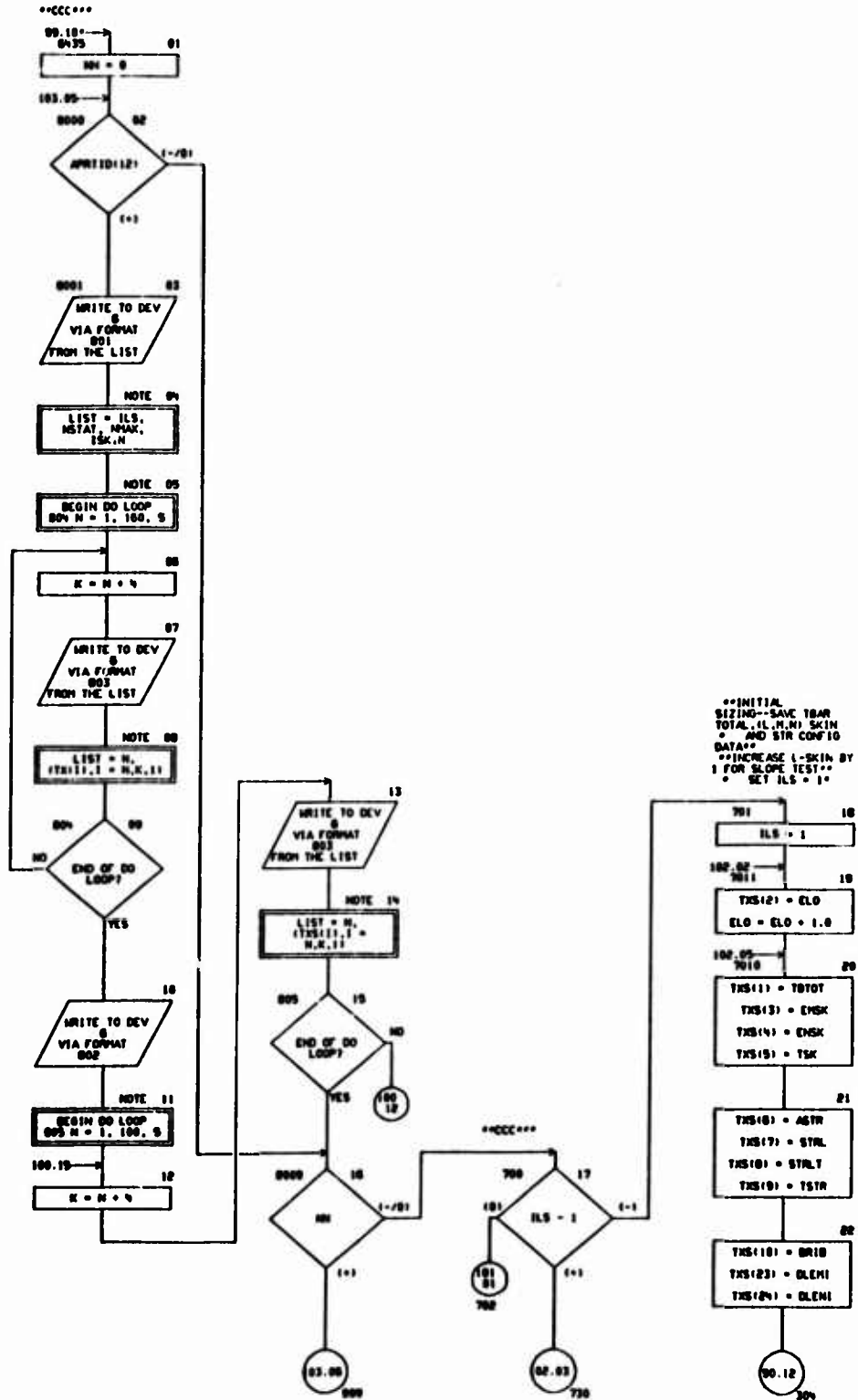


```

graph TD
    52[52] --> 53{53}
    53 -- YES --> 54((54))
    53 -- NO --> 55[55]
    55 --> 56[56]
    56 --> 57{57}
    57 -- YES --> 58[58]
    57 -- NO --> 59[59]
    58 --> 60[60]
    60 --> 61{61}
    61 -- YES --> 62[62]
    61 -- NO --> 63[63]
    62 --> 64[64]
    64 --> 65{65}
    65 -- YES --> 66[66]
    65 -- NO --> 67[67]
    66 --> 68[68]
    68 --> 69{69}
    69 -- YES --> 70[70]
    69 -- NO --> 71[71]
    70 --> 72[72]
    72 --> 73{73}
    73 -- YES --> 74[74]
    73 -- NO --> 75[75]
    74 --> 76[76]
    76 --> 77{77}
    77 -- YES --> 78[78]
    77 -- NO --> 79[79]
    78 --> 80[80]
    80 --> 81{81}
    81 -- YES --> 82[82]
    81 -- NO --> 83[83]
    82 --> 84[84]
    84 --> 85{85}
    85 -- YES --> 86[86]
    85 -- NO --> 87[87]
    86 --> 88[88]
    88 --> 89{89}
    89 -- YES --> 90[90]
    89 -- NO --> 91[91]
    90 --> 92[92]
    92 --> 93{93}
    93 -- YES --> 94[94]
    93 -- NO --> 95[95]
    94 --> 96[96]
    96 --> 97{97}
    97 -- YES --> 98[98]
    97 -- NO --> 99[99]
    98 --> 100[100]
    100 --> 101{101}
    101 -- YES --> 102[102]
    101 -- NO --> 103[103]
    102 --> 104[104]
    104 --> 105{105}
    105 -- YES --> 106[106]
    105 -- NO --> 107[107]
    106 --> 108[108]
    108 --> 109{109}
    109 -- YES --> 110[110]
    109 -- NO --> 111[111]
    110 --> 112[112]
    112 --> 113{113}
    113 -- YES --> 114[114]
    113 -- NO --> 115[115]
    114 --> 116[116]
    116 --> 117{117}
    117 -- YES --> 118[118]
    117 -- NO --> 119[119]
    118 --> 120[120]
    120 --> 121{121}
    121 -- YES --> 122[122]
    121 -- NO --> 123[123]
    122 --> 124[124]
    124 --> 125{125}
    125 -- YES --> 126[126]
    125 -- NO --> 127[127]
    126 --> 128[128]
    128 --> 129{129}
    129 -- YES --> 130[130]
    129 -- NO --> 131[131]
    130 --> 132[132]
    132 --> 133{133}
    133 -- YES --> 134[134]
    133 -- NO --> 135[135]
    134 --> 136[136]
    136 --> 137{137}
    137 -- YES --> 138[138]
    137 -- NO --> 139[139]
    138 --> 140[140]
    140 --> 141{141}
    141 -- YES --> 142[142]
    141 -- NO --> 143[143]
    142 --> 144[144]
    144 --> 145{145}
    145 -- YES --> 146[146]
    145 -- NO --> 147[147]
    146 --> 148[148]
    148 --> 149{149}
    149 -- YES --> 150[150]
    149 -- NO --> 151[151]
    150 --> 152[152]
    152 --> 153{153}
    153 -- YES --> 154[154]
    153 -- NO --> 155[155]
    154 --> 156[156]
    156 --> 157{157}
    157 -- YES --> 158[158]
    157 -- NO --> 159[159]
    158 --> 160[160]
    160 --> 161{161}
    161 -- YES --> 162[162]
    161 -- NO --> 163[163]
    162 --> 164[164]
    164 --> 165{165}
    165 -- YES --> 166[166]
    165 -- NO --> 167[167]
    166 --> 168[168]
    168 --> 169{169}
    169 -- YES --> 170[170]
    169 -- NO --> 171[171]
    170 --> 172[172]
    172 --> 173{173}
    173 -- YES --> 174[174]
    173 -- NO --> 175[175]
    174 --> 176[176]
    176 --> 177{177}
    177 -- YES --> 178[178]
    177 -- NO --> 179[179]
    178 --> 180[180]
    180 --> 181{181}
    181 -- YES --> 182[182]
    181 -- NO --> 183[183]
    182 --> 184[184]
    184 --> 185{185}
    185 -- YES --> 186[186]
    185 -- NO --> 187[187]
    186 --> 188[188]
    188 --> 189{189}
    189 -- YES --> 190[190]
    189 -- NO --> 191[191]
    190 --> 192[192]
    192 --> 193{193}
    193 -- YES --> 194[194]
    193 -- NO --> 195[195]
    194 --> 196[196]
    196 --> 197{197}
    197 -- YES --> 198[198]
    197 -- NO --> 199[199]
    198 --> 200[200]
    200 --> 201{201}
    201 -- YES --> 202[202]
    201 -- NO --> 203[203]
    202 --> 204[204]
    204 --> 205{205}
    205 -- YES --> 206[206]
    205 -- NO --> 207[207]
    206 --> 208[208]
    208 --> 209{209}
    209 -- YES --> 210[210]
    209 -- NO --> 211[211]
    210 --> 212[212]
    212 --> 213{213}
    213 -- YES --> 214[214]
    213 -- NO --> 215[215]
    214 --> 216[216]
    216 --> 217{217}
    217 -- YES --> 218[218]
    217 -- NO --> 219[219]
    218 --> 220[220]
    220 --> 221{221}
    221 -- YES --> 222[222]
    221 -- NO --> 223[223]
    222 --> 224[224]
    224 --> 225{225}
    225 -- YES --> 226[226]
    225 -- NO --> 227[227]
    226 --> 228[228]
    228 --> 229{229}
    229 -- YES --> 230[230]
    229 -- NO --> 231[231]
    230 --> 232[232]
    232 --> 233{233}
    233 -- YES --> 234[234]
    233 -- NO --> 235[235]
    234 --> 236[236]
    236 --> 237{237}
    237 -- YES --> 238[238]
    237 -- NO --> 239[239]
    238 --> 240[240]
    240 --> 241{241}
    241 -- YES --> 242[242]
    241 -- NO --> 243[243]
    242 --> 244[244]
    244 --> 245{245}
    245 -- YES --> 246[246]
    245 -- NO --> 247[247]
    246 --> 248[248]
    248 --> 249{249}
    249 -- YES --> 250[250]
    249 -- NO --> 251[251]
    250 --> 252[252]
    252 --> 253{253}
    253 -- YES --> 254[254]
    253 -- NO --> 255[255]
    254 --> 256[256]
    256 --> 257{257}
    257 -- YES --> 258[258]
    257 -- NO --> 259[259]
    258 --> 260[260]
    260 --> 261{261}
    261 -- YES --> 262[262]
    261 -- NO --> 263[263]
    262 --&
```

CHART TITLE - SUBROUTINE ACNSTR

\*\*\*COVER SIZING  
COMPLETED--CHECK FOR  
L-SKIN SEARCH\*\*



••SECOND PASS--CHECK  
WT SLOPE••

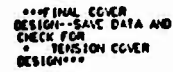


CHART TITLE - SUBROUTINE ACVSTR

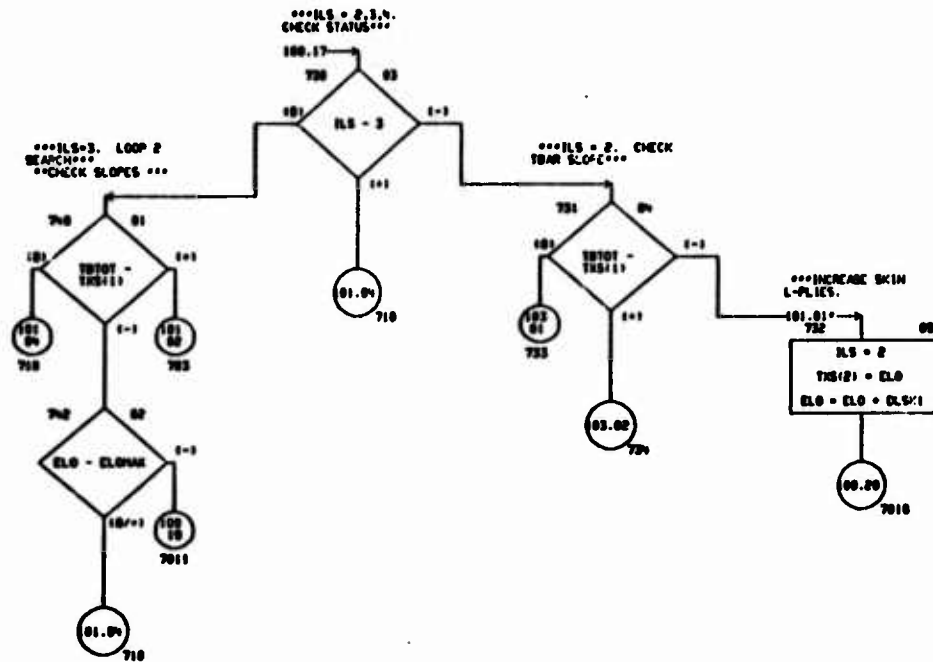


CHART TITLE - SUBROUTINE ACNSTR

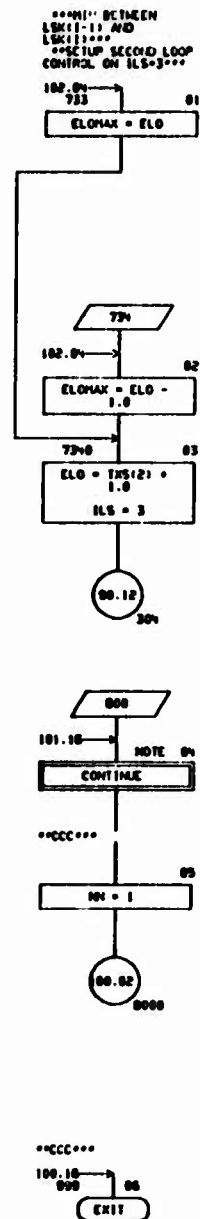


CHART TITLE - MVI-PROCEDURAL STATEMENTS

```

COMMON T(2063),D(2060),CD(2063),ND(100),TH(900),CT(2040)
DIMENSION EL(15),EXP(9),END(5,20),ENK(3,20),ENH(6),ENC(3),DC(100),
STRESS(6,11,20),CLC(17,11),P(20),SPCRU(11),FCR(10,11),
STRID(2,10,11),THICK(4),CNT(9),IEL(15,11),
TX(100),TPS(100),
SHOU(11),SPDL(11),SHOU(11),STDL(11),
FSKU(11),FSTU(11),FSKL(11),FSTL(11),
ESK(20),STFHH(5),STFHF(5),
SLUD(33),SKLO(33),STLUD(33),STLLO(33),
PSK(20),PSTR(20),
APRT(10(12)
,BRUH(11),BRUL(11)
EQUIVALENCE (EL(1),T(1300)),(ENP(1),D(1155)),(END(1,1),TH(601)),
(ENK(1,1),TH(701)),(STRESS(1,1),CT(1)),(CLC(1,1),T(1501)),
(P(1),T(1006)),(SPCRU(11),T(1632)),(FCR(1,1),T(1100)),
(STRID(1,1,1),T(1676)),(THICK(1),T(1016)),(CNT(1),T(1194)),
(TX(1),CD(1)),(THS(1),CD(161)),
(INSTR(1),CNT(1)),(INSTR(1),CNT(2)),(IBR(1),CNT(3)),(IBRMAX,CNT(4)),
(IBRMAX,CNT(7)),(IBRMIN,CNT(40)),(IBRMAX,CNT(41)),(IBRMIN,CNT(42)),
(INSTR,CNT(12)),(C3,CNT(13)),(C8,CNT(23)),
(SPCODE,ND(43)),(ILCASE,ND(41)),(ITYPE,ND(44)),
(APRT(10(1),T(1070)),(INSTAT,ND(55)),(INMAX,ND(131))
,IOC(1),D(1401)),(STFHH(1),D(1340)),(STFHF(1),D(1353))
,STLUD(1),CD(261)),(SKLO(1),CD(2041))
,STLUD(1),CD(327)),(STLLO(1),CD(360)),(CTIX,D(1407))
EQUIVALENCE (ENH(1),D(1164)),(ENC(1),CT(2043)),(IEL(1,1),TH(11)),
(HS,CNT(24)),(ICPL(1),CNT(31)),
(FCR(10,D(400)),(DCRD,D(1424)),(PFFSCV,CT(2047)),(PFFSCV,CT(2048)),
(SHOU(1),TH(166)),(SHOU(1),TH(177)),
(FSKU(1),TH(100)),(FSTU(1),TH(100)),(SKLO(1),TH(210)),
(STDL(1),TH(201)),(FSKL(1),TH(232)),(FSTL(1),TH(213)),
(INSTIFF,CNT(40)),
(INSTIFF,ND(33)),(ILS,ND(34)),(ILS,ND(35)),(ILR,ND(36)),
(PSK(1),TX(101)),(PSTR(1),TX(121)),(ASKL,TX(61)),(ILSTRCR,ND(37))
,IBDTS,TX(76)),(BOTA,TX(70))
,IBRUH(1),TH(294)),(BRUL(1),TH(265))
EQUIVALENCE (BS,TX(30)),(WIDE,TX(31)),(ELL,TX(32)),(ELO,TX(33)),
(END,TX(34)),(END,TX(35)),(ELSK,TX(36)),(EMSK,TX(37)),
(ENBK,TX(38)),(DELL,TX(39)),(ASTRA,TX(40)),(SHOPL,TX(41)),
(OLSK(1),TX(42)),(SKLUPN,TX(43)),(SKLLPN,TX(44)),(STRLUN,TX(45)),
(STRLLN,TX(46)),(IBRIBR,TX(47)),(IDLSTL,TX(48)),(ASTRO,TX(49)),
(STRLO,TX(50)),(STRLO,TX(51)),(BRIBFC,TX(52)),(BRIBFC,TX(53)),
(BRIB,TX(54)),(ASIR,TX(55)),(STRL,TX(56)),(STRLT,TX(57)),
(AESTR,TX(58)),(TOSTR,TX(59)),(TSTR,TX(60)),(FSTR,TX(61)),
(BW,TX(62)),(BF,TX(63)),(FSTR,TX(64)),(YBAR,TX(65)),
(YPLATE,TX(66)),(TRIB,TX(67)),(EIRCOO,TX(68)),(EIRIB,TX(69)),
(EIRIB,TX(70)),(IBTOT,TX(71)),(IBCOV,TX(72)),(IBRIB,TX(73))
,(IBFIL,TX(74)),(IBATT,TX(75))
,(ESK(1),TX(101)),(TSK,TX(41)),(ASKT,TX(51)),(OLENT,TX(111))
,(OLENT,TX(121)),(PSKRL,TX(141)),(PSTCL,TX(111))
,(PCCR1,TX(110)),(PCCR1,TX(101)),(PSKPOA,TX(101)),(IRSTPOA,TX(101))
,(STFHT,TX(70)),(STSTR,TX(80))
,IBL,TX(30)),(IBMT,TX(31)),(IBLT,TX(32))
REAL ISTR,INSTR,IEL
INTEGER SPCODE,TYPE
001 FORMAT (20H1 ***ACMSTR SUBR----ILS=12,GM STA=12,GM PT=14,10H
COV 10=12,GMH TX )
002 FORMAT (6H TX)
003 FORMAT (3X,13,3X,5E10.0)

```



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AUTOFLOW CHART SET - SHEEP MINS AND EXPERIMENTAL MODULE - PAGE 109

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ACPSA\*\*\*\*\*

\*\*\*SKIN-STR LOAD DIST, SKIN STABILITY - ADV. COMP. ANALYSIS\*\*\*

\*\*\*\*\*

ACPSX  
91.11 →  
\*\*\*SUG TO CHECK NO  
SIZE SKINS FOR  
STABILITY AND  
CALC POSTING LOAD  
DISTRIBUTIONS BETWEEN  
SKIN-SKIN  
BASED ON FINAL  
SKIN, M, N, AND GIVE  
SKIN AREA\*\*\*

\*\*STR AREA AND NO OF  
 SKIN L-PLIES REMAINS  
 CONSTANT\*\*  
 \*\*M,NICKLES) VARIES  
 AS FEED TO SATISFY  
 STABILITY  
 AND INTERACTION  
 EQUATION --IRC +  
 RS\*\*2) = 1.0\*\*

```
***INITIALIZE
DATA***
```

ENI = ENO • DLENI  
ENI = EIO • DLENI  
TSK =  
2.0 • (IP(9) • IELO •  
2.0 • ENI • ENI)

```

      ASKT = TSK*DS
      IMAX = IMAX + 1
      IMAXI = 0.0

```

```

100 PRINT INITIAL DATA
101 ON APRID(INSTAT) =

```

WRITE TO DEV  
6  
VIA FORMAT  
191  
FROM THE LIST

NOTE: LIST = INSTAT,  
HNSAK, ISKIN, SP,  
ELO, END, END,  
TSK, AGCT, AGTR,  
STR.

```

**=STABILITY
CHECK--SIZING LOOP.
ML=1000

```

```

NL = 1
NCR = 0.0
LCCR = 0.0
SQRN = 0.0
PNCRL = 0.0
RNAX = 0.0

```

107.10 — 100 NOTE 07

BEGIN DO LOOP  
100 N = 1, ILCASE

```

106.07--
110
E11 *
1E10*E10(1,N) *
2.0*E11*E10(1,N)
*
E11*E10(2,N)
*E10(1,2.0

```

```

      K22 =
      1E0*EN0(2,N) +
      2.0*EN1*E1(4,N)
      +
      EN1*E1(1,N)
      +2.0*E1(9)

```

612 =  
16(11) \* 10(1) \*  
EN(1) \*  
0.5 \* EN(1) \* (EN(1), N)  
\* EN(1, N) \*  
2 \* EN(1, N) \*  
2 \* EN(1, N)

E12 = 11ELO \*  
EN11 \* ENO13, N1 \*  
END15, N1 \* EN1 \* 2.1  
\* 2. \* ENP19)  
  
E00 = 1E11 -  
E12/E22 \* E12/TSK

XX = TSK\*TSK/12.  
D11 = E11\*XX  
D12 = E22\*XX  
D12 = (E12 +  
2.\*D12)\*XX

••CALC LOAD RATIOS••

```

      PRCI =
      STRESS(3,NSTAT,N)

      PRCI =
      STRESS(1,SKIN,
      NSTAT,N)

      PCI = BS*PRCI

```

RAE =  
ASST/ASTR\*COO/  
EID(1,N)  
SQR(1) =  
RAE/(1.0 + RAE)

```

1110 ──┐
        │
        └─┬─ 17
            │
            │ PSKINI =
            │ SKRINI = PCI
            │
            │ PSTRINI = PCI -
            │           PSKINI
            │
            │ PSKI =
            │ PSKI = SKRINI

```

112

1120  
ESKINI = EOO  
NPAK1 = NPAK1 + 1

```

114      | 8
|-----|
| PNOCR = PNOI |
| LCCR = N      |
| OSKCR = PNOYI |
| PSKCR = PSK(N)|

```

PSICOL - PSIRINI  
ESICOL - ESIRINI

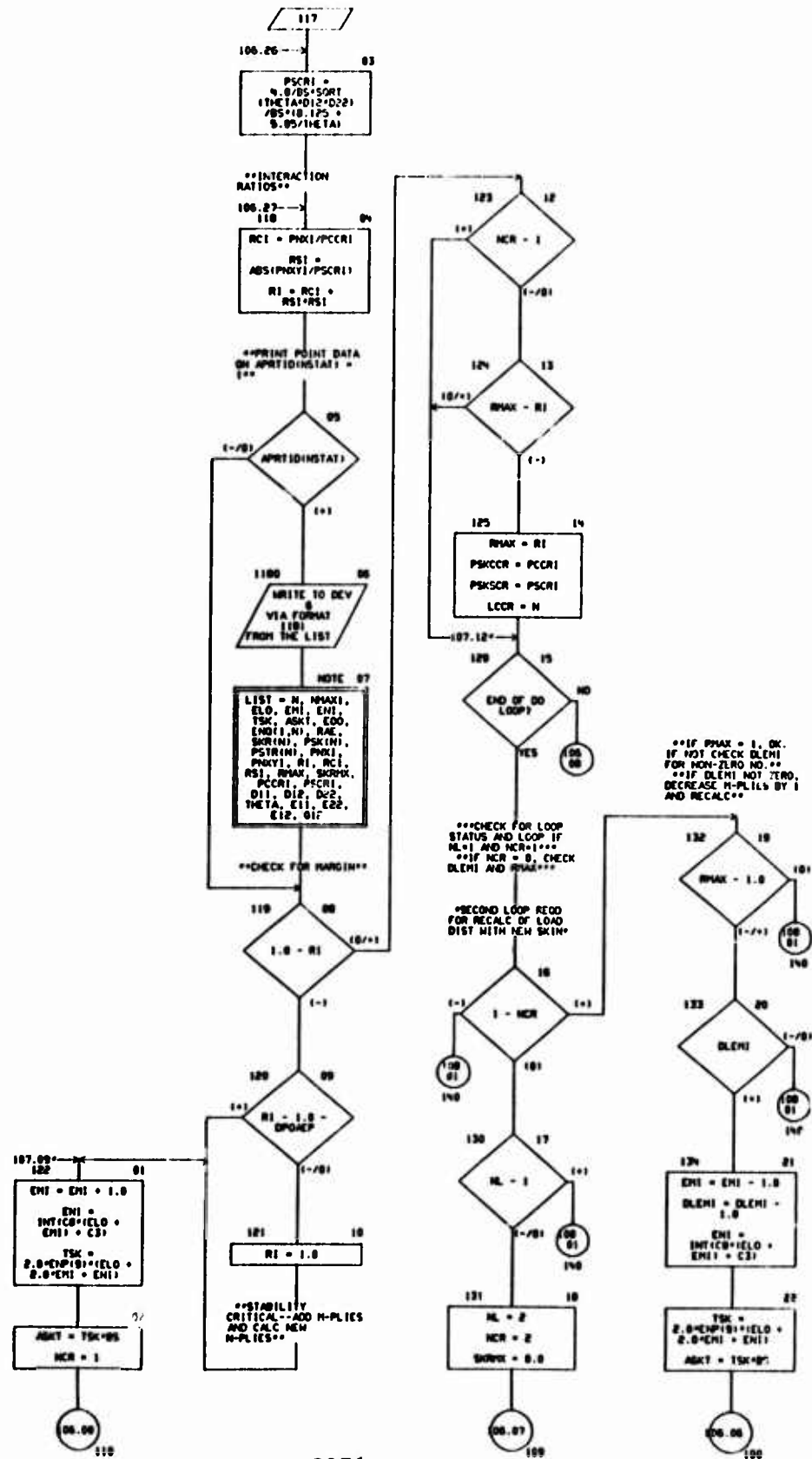
•CHECK STABILITY•  
105.21°  
115  
THETA =  
SQRT(D11\*D22)/D12  
PCCR1 =  
19.739/85\*D12/85\*  
(THETA = 1.8)

THETA = 1.0

116 2

PSCR1 =  
4.0/BS\*ORTID22  
0121  
/BS\*(1.030\*THEIA  
• .902\*THEIA •  
11 71

CHART TITLE - SUBROUTINE ACPROF(ASTR,STAT)



```

**CHECK L-PLY
APPLIED/ULT P/A
STRESSES AND
RATIOS**
**CALC MIN B/T
REQD**

```

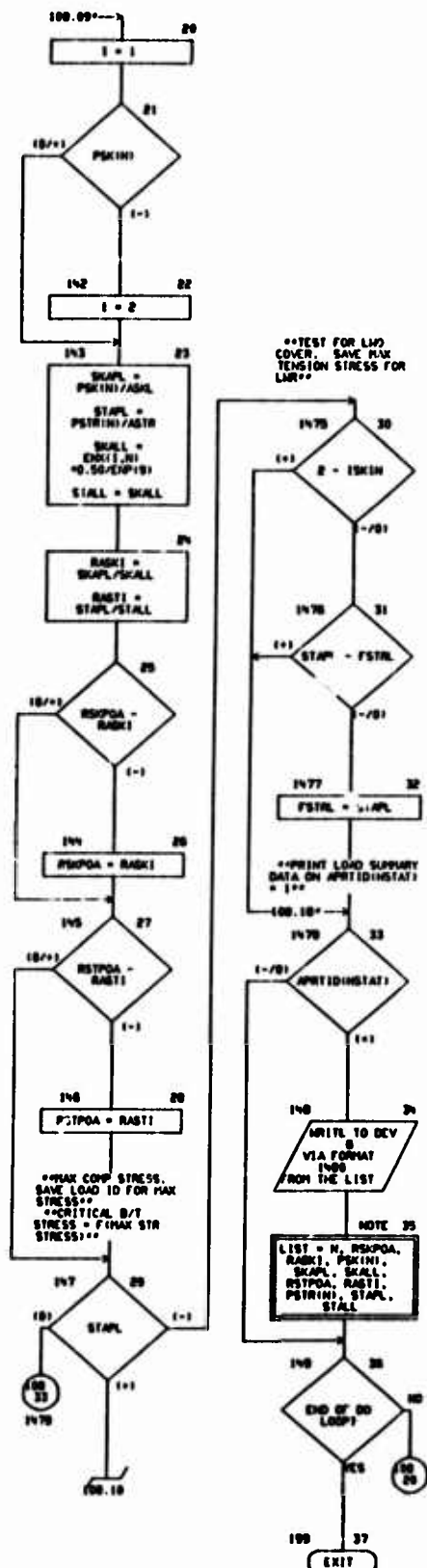
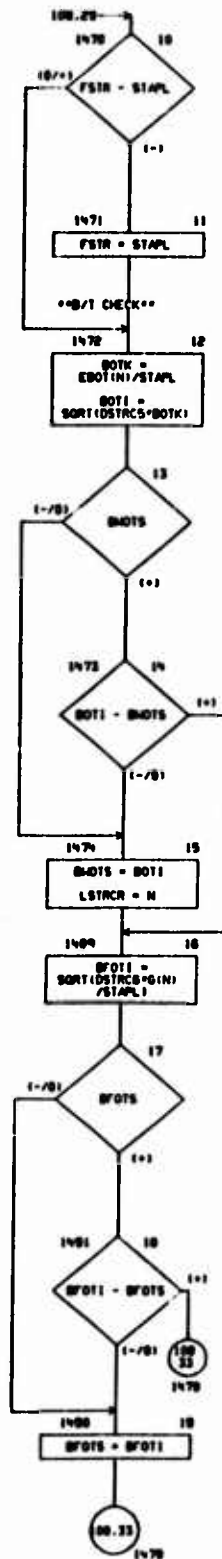


CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T(2060),D(2060),CD(2000),ID(100),TX(900),CT(2040)
DIMENSION CNP(9),END(5,20),ENX(3,20),STRESS(6,11,20),
          Q(20),CNT(9),
          TX(160),ESK(20),PSK(20),PSTR(20),SKR(20),
          EDO(20),
          APRT(10),
          EQUIVALENCE (CNP(1),D(1155)),(E(21),1),TM(50)),(G(1),CT(203)),
          (STRESS(1,1,1),CT(1)),(ENX(1,1),TM(70)),(CNT(1),TX(54)),
          (C3,CNT(13)),(C8,CNT(23)),(TX(1),CD(1)),(ESK(1),TX(10)),
          (PSK(1),TX(10)),(PSTR(1),TX(12)),(SKR(1),TX(14)),
          (DS,TX(30)),(ELO,TX(33)),(END,TX(34)),(ENO,TX(35)),
          (ENI,TX(1)),(ENI,TX(2)),(SKR(1),TX(3)),(TSK,TX(4)),(ASK,TX(5)),
          (ASBL,TX(6)),(ASTRL,TX(7)),(RSKPOA,TX(8)),(PSTPOA,TX(8)),
          (IRAC,TX(10)),(EOD,TX(20)),
          (ISKIN,ND(32)),(ILCAGE,ND(41)),(LCGR,ND(29)),
          (APRT(10),T(1070)),(IMAX,ND(31)),(INSTAT,ND(55)),(IMAXI,ND(30))
          EQUIVALENCE (ESK(1),TX(13)),(PSK(1),TX(14)),(PSTR(1),TX(15)),
          (PSK(1),TX(16)),(PSK(1),TX(17)),(PCCR(1),TX(18)),(PSCR(1),TX(19)),
          (IMAXI,TX(20)),(IRI,TX(12)),(IRCI,TX(22)),(IRSI,TX(23)),
          (PCI,TX(24)),(PMKI,TX(25)),(PMKY,TX(26)),
          (OLENI,TX(11)),(OLENI,TX(12)),
          (PSTR,TX(16)),(BMDTS,TX(76)),(BMDTS,TX(77)),
          (LSTRCR,ND(37)),
          (DSTRCS,D(500)),(DSTRCS,D(509)),
          (EDOT(1),TM(19)),
          (IRAKI,TX(27)),(IRASTI,TX(28)),
          (SPONEP,D(445))
101  FORMAT (1H0,7F40.0,1X,10F12.0H PT=14,10H COV 1
          0-12,0H DSTR=0.3,4H 0.0,1X,3F6.1,3F9.4,7F6.1)
1101  FORMAT (1H0,2X,12,2X,14,2X,3F7.1,3F9.4,4E16.0,12X,2F11.1,2F9.1,4E
          16.0,12X,3F9.4,12X,3F9.1,4E16.0,12X,4E16.0)
1403  FORMAT (1H0,7F40.0,1X,10F12.0H PT=14,10H COV 1
          0-12,0H DSTR=0.3,4H 0.0,1X,3F6.1,3F9.4,7F6.1)
1400  FORMAT (1X,12,2X,3F9.4,3F11.1,2X,3F9.4,3F11.1)

```

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AUTOFLOW CHART SET - SHEEP M113 AND EFFETPAGE MODULE - PAGE 110

CHART TITLE - INTRODUCTORY COMMENTS

```
*****  
*****SUBROUTINE ACSTR3*****  
***STRINGER GEOMETRY/SECTION PROPERTIES - ADV. COMP. ANALYSIS***  
*****
```

CHART TITLE - SUBROUTINE ACSTRG(10)

ACSTRG  
01.17---  
\*\*\*STRINGER  
BECHETRY  
SLE 2.11E\*\*\*  
\*\*\*SLE AREA  
DISTRIBUTIONS BASED  
ON CRIPPLING D/T\*\*\*  
\*\*\*TYPE OF STR 1, 2,  
3, 4\*\*\*  
\*\*\*STRINGER ID =  
NSTIFF, 1=1, 2=2,  
3=1, 4=MAI\*\*\*

\*\*\*DISTRIBUTION ID =  
ID, 0=OK, 1=STR AREA  
TOO SMALL\*\*\*

\*\*\*TYPE OF STRINGER  
TEST\*\*\*

01  
TREQD = 0.0  
TREQD1 = 0.0  
ILOEL = 3

02  
ID = 0.0  
B4L = STRL  
BMT = TSTR  
B4LT = STRLT  
BOTA = BMIN/BMT

03  
NSTIFF = 1

04  
11.10

\*\*\*INTEGRAL 1  
STRINGER\*\*\*

05  
BNOTS = BNOTS

06  
BOTA = BNOTS

07  
B4L = B4L + 1.0  
BMT = ENP(9)\*B4L  
B4LT = ASTR/BMT

08  
BMIN = B4LT

09  
BOTA = B4LT/BMT

10  
BNOTS = BOTA

11  
B4LT/BMT - BNOTS

12  
B4L = B4L  
BMT = BMT  
B4LT = B4LT  
BOTA = B4LT/BMT

13  
B4L = B4L + 3.0

14  
STRLD = B4L

15  
BMT = ENP(9)\*B4L  
B4LT = ASTR/BMT

16  
BMIN = B4LT

17  
BOTA = B4LT/BMT

18  
BNOTS = BOTA

19  
B4LT/BMT - BNOTS

20  
B4L = B4L  
BMT = BMT  
B4LT = B4LT  
BOTA = B4LT/BMT

21  
B4L = B4L + 3.0

22  
STRLD = B4L

23  
BMT = ENP(9)\*B4L  
B4LT = ASTR/BMT

24  
BMIN = B4LT

25  
BOTA = B4LT/BMT

26  
BNOTS = BOTA

27  
B4LT/BMT - BNOTS

28  
B4L = B4L  
BMT = BMT  
B4LT = B4LT  
BOTA = B4LT/BMT

29  
B4L = B4L + 3.0

30  
STRLD = B4L

31  
BMT = ENP(9)\*B4L  
B4LT = ASTR/BMT

32  
BMIN = B4LT

33  
BOTA = B4LT/BMT

34  
BNOTS = BOTA

35  
B4LT/BMT - BNOTS

\*\*\*B/T AVAILABLE TOO  
LARGE. INCREASE  
L-PLIES IF POSSIBLE.  
\*\*\*CHECK B/T TOL\*\*\*

11.15  
500

11.16  
500

11.17  
500

11.18  
500

11.19  
500

11.20  
500

11.21  
500

11.22  
500

11.23  
500

11.24  
500

11.25  
500

11.26  
500

11.27  
500

11.28  
500

11.29  
500

11.30  
500

11.31  
500

11.32  
500

11.33  
500

11.34  
500

11.35  
500

11.36  
500

11.37  
500

11.38  
500

11.39  
500

11.40  
500

11.41  
500

11.42  
500

\*\*\*STR AREA TOO  
SMALL. SET EXIT  
ID=1\*\*\*

11.15  
500

11.16  
500

11.17  
500

11.18  
500

11.19  
500

11.20  
500

11.21  
500

11.22  
500

11.23  
500

11.24  
500

11.25  
500

11.26  
500

11.27  
500

11.28  
500

11.29  
500

11.30  
500

11.31  
500

11.32  
500

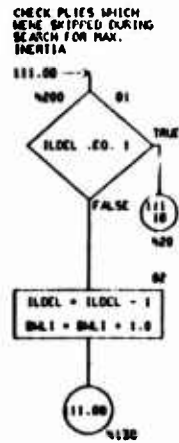
11.33  
500

11.34  
500

06/14/74

AUTOFLOW CHART SET - SAREP WING AND ENGINEAGE MODULE - PAGE 112

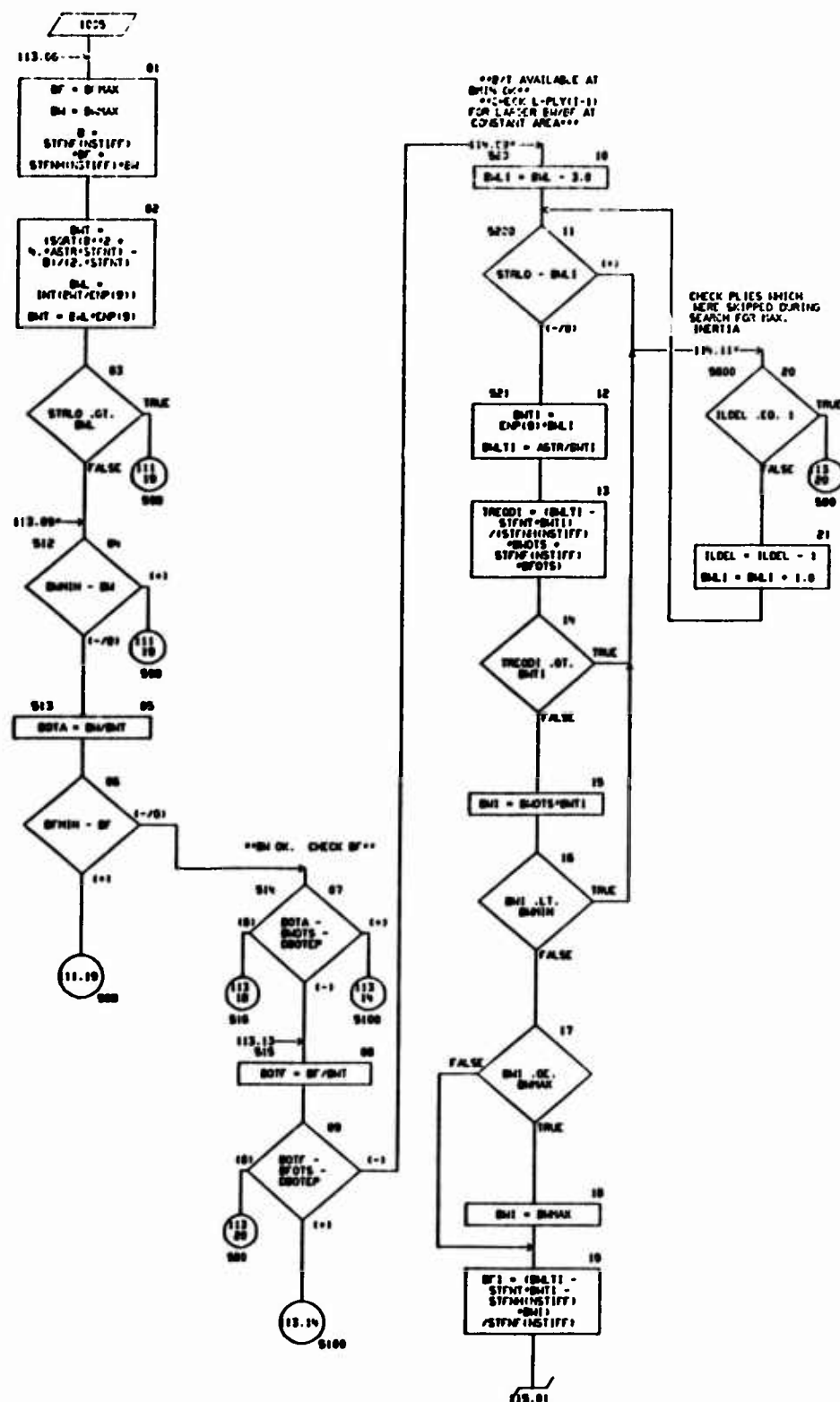
CHART TITLE - SUBROUTINE ACSTRG(1)





2082

CHART TITLE - SUBJECTIVE ACCIDENTS



CHWT TITLE - SUBROUTINE ASTRGLOD

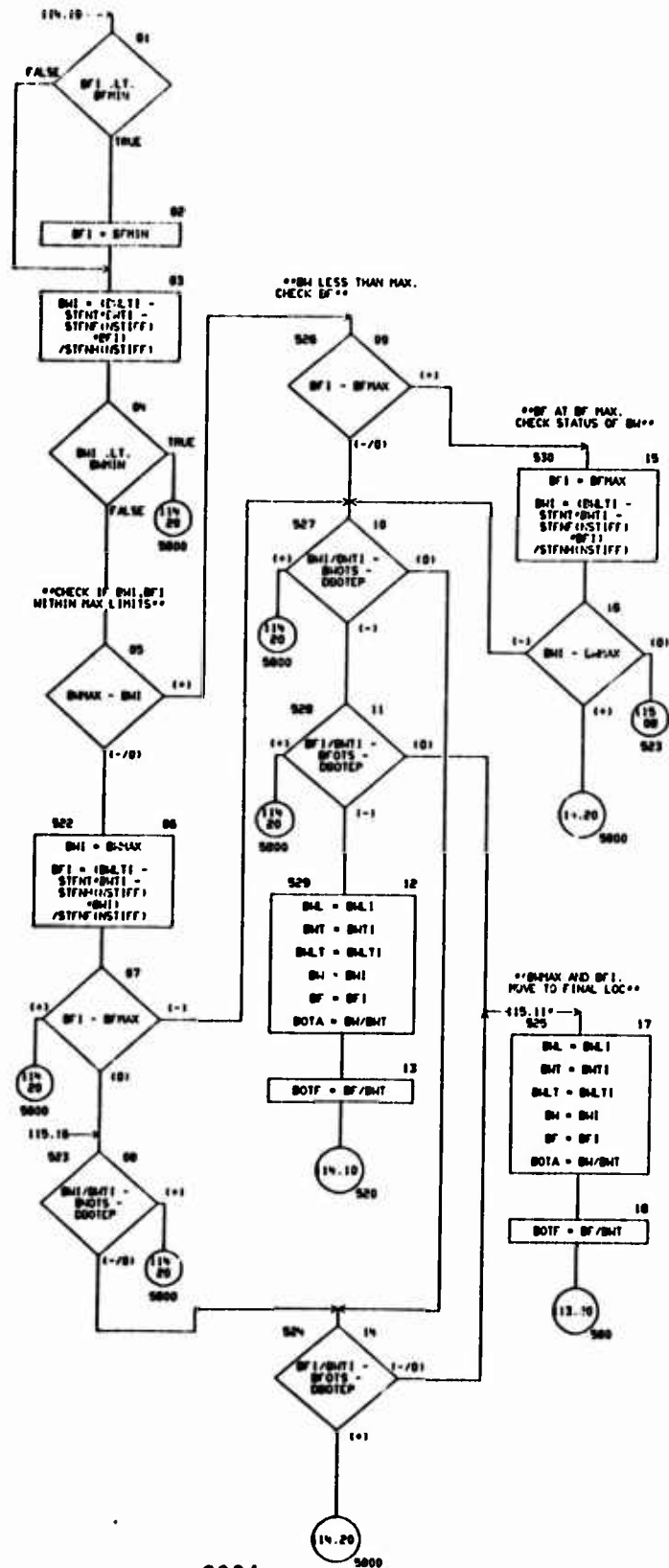


CHART TITLE - NON PRO-EQUAL STATEMENTS

```

COMMON T(2060),D(2060),CD(2000),ND(100),TX(900),CT(2040)
DIMENSION TX(100),TXS(100),CNT(0),
STFM(5),STFN(5),
APRT(10),
EMP(0)
EQUIVALENCE (EMP(1),D(1155)),(TX(1),CD(1)),(TXS(1),CD(16)),
(CNT(1),T(154)),
(BPMAX,CNT(7)),(BPMIN,CNT(40)),(BPMAX,CNT(41)),(BPMIN,CNT(42)),
(ISTRLO,TX(50)),(ASTR,TX(55)),(STRLO,TX(56)),(STRLT,TX(57)),
(ISTR,TX(60)),(BMT,TX(62)),(BFT,TX(63)),(ISTR,TX(64)),(YSAR,TX(65)),
(BMOTS,TX(76)),(BFOTS,TX(77)),(DOTA,TX(70)),(STFNT,TX (79)),
(BML,TXS(30)),(BMT,TXS(31)),(BMLT,TXS(32)),
(BMLT,TXS(39)),(BMT,TXS(36)),(BMLT,TXS(37)),
(STFM(1),D(1340)),(STFN(1),D(1353)),
(MSTIFF,ND(33))
,(BMT,TXS(30)),(BFT,TXS(39)),(BMT,TXS(40))
,(APRT(10),T(1070)),(INSTAT,ND(55))
,(DBOTEP,D(444))
REAL ISTR
9901 FORMAT (24H0 ***ACSTRO SUBR---STA,13,10H MSTIFF=.12,6H 10-.1
2,6H ASTR=F0.5,4H ***//6X,5F10.5)
9902 FORMAT (8X,4F12.5,7X,6F12.5,7X,6F12.5,14)

```

CHART TITLE - INTRODUCTORY CONTENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE MEIGH\*\*\*\*\*

\*\*\*SECTION MT PER INCH FOR ADV. COMP. M/RID TORQUE-EJ\*\*\*

\*\*\*\*\*

06/14/76

AUTOFLEX CHART SET - SLEEP MINS AND EFFICIENCY MODULE - PAGE 110

CHART TITLE - SUBROUTINE MEIGH2(ME1,NSTAT)

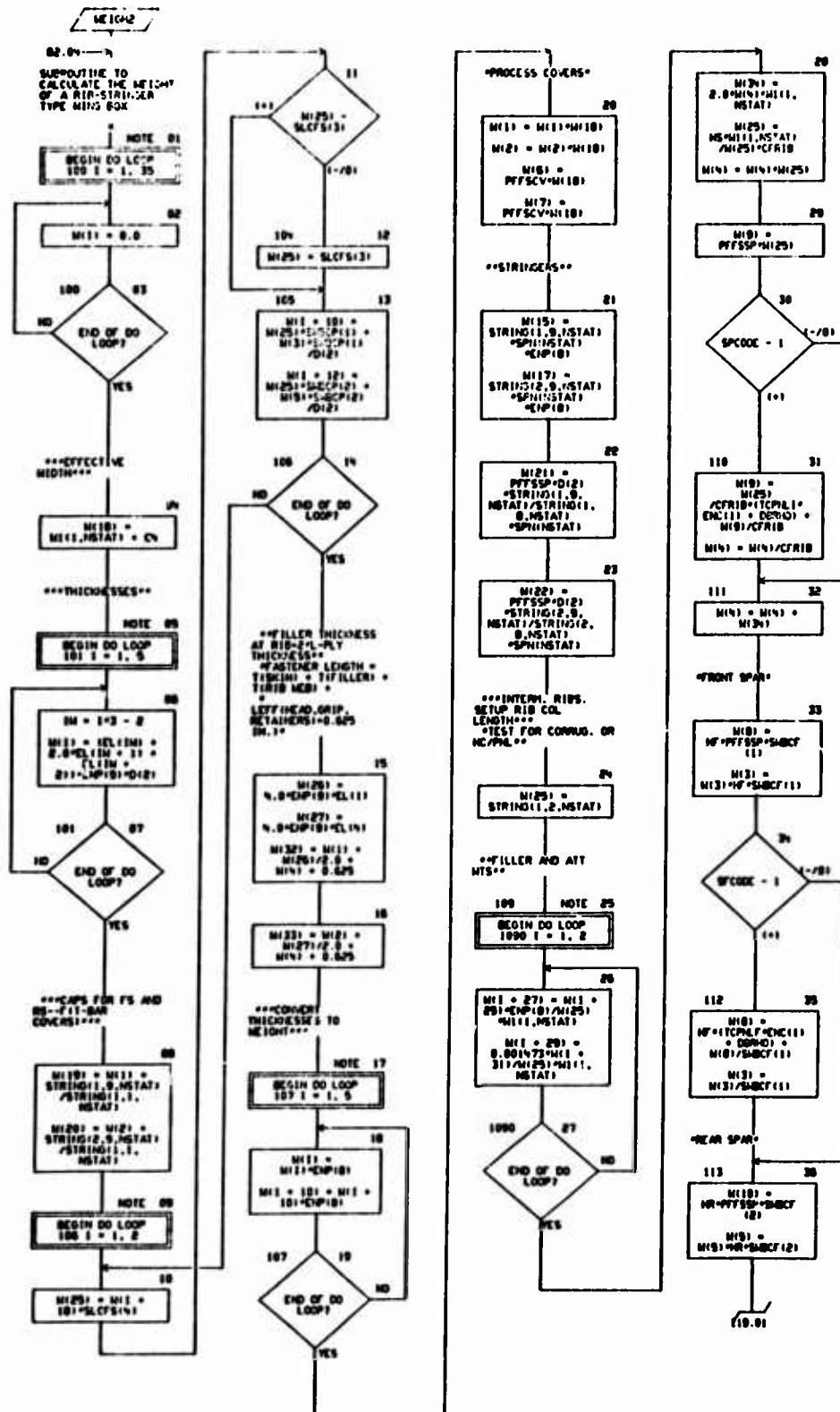


CHART TITLE - SUBROUTINE MECH(MET, NSTAT)

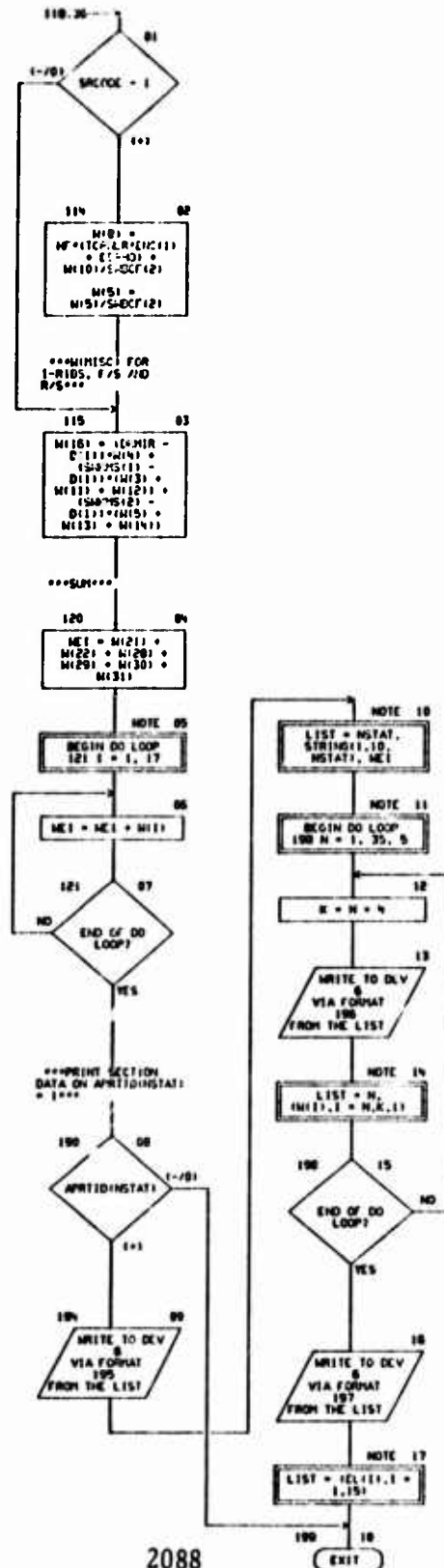


CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T(10100)
DIMENSION D(2000),CT(2048),ND(100),
ENP(10),ENN(10),ENC(10),EL(10),
M(35),
SLCFS(5),SHDCP(2),SHMS(2),SHDCP(2),
APRTID(12),
SPN(33),
M(12,11),STRING(12,10,11),CNT(130)
EQUIV= ENCE (D(11),T(2001)),ICT(11),T(71211),IND(11),T(161211),
IENP(11),D(11551),IENN(11),D(112411),IENC(11),CT(20431),
IEL(11),T(13001),ICNT(11),T(15411),
ICN,CNT(141),IMS,CNT(241),IIF,CNT(251),IHR,CNT(261),
ISFCODE,ND(451),ISRCODE,ND(461),ISPCODE,ND(431),
ICFRIB,D(4001),ISDCP(11),D(4271),IDBRHO,D(4641),
ITCPNL1,CNT(311),ITCPNLF,CNT(321),ITCPNLR,CNT(331),
ISLCFS(11),D(14701),ISHDCP(11),D(4231),ISHMS(11),D(4101),
IDKMR,D(241),IPFFSCV,CT(20471),IPFTSSP,CT(20481),
INI(1,1),CT(19811),STRING(1,1,1),T(16761),
(APRTID(11),T(10701),
ISPN(11),T(12751)
INTEGER SPCODE,SFCODE,SPCODE
195 FORMAT (24H0 ***WEIGH2 SUGR -- STA,13,BH N/STR*,F7.1,BH MT/IN*,
PB,N,NH*** /6H0 M I
196 FORMAT (3X,12,2X,5F12.4)
197 FORMAT (12H0 EL(1-15)=,3F6.1,2,3F6.1,2X,3F5.1,2X,3F5.1,2X,3F5.1)

```



06/14/74

AUTOFLOW CHART SET - SHEEP WING AND EXTERIOR MODULE - PAGE 121

CHART TITLE - INTRODUCTORY COMMENTS

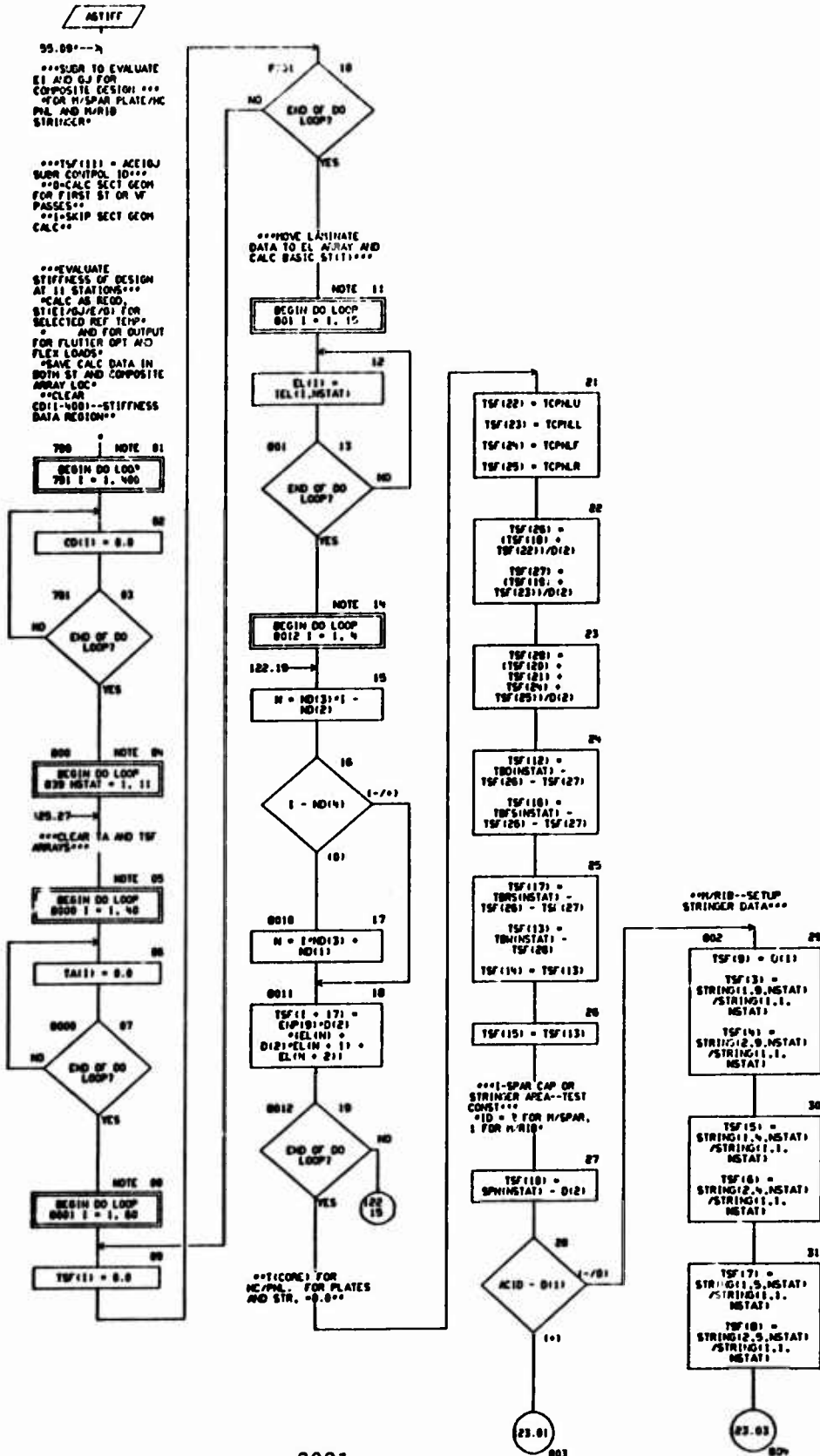
\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ASTIFF\*\*\*\*\*

\*\*\*TORQUE-BOX STIFFNESS EVALUATION - ADV. COMP. ANALYSIS\*\*\*

\*\*\*\*\*

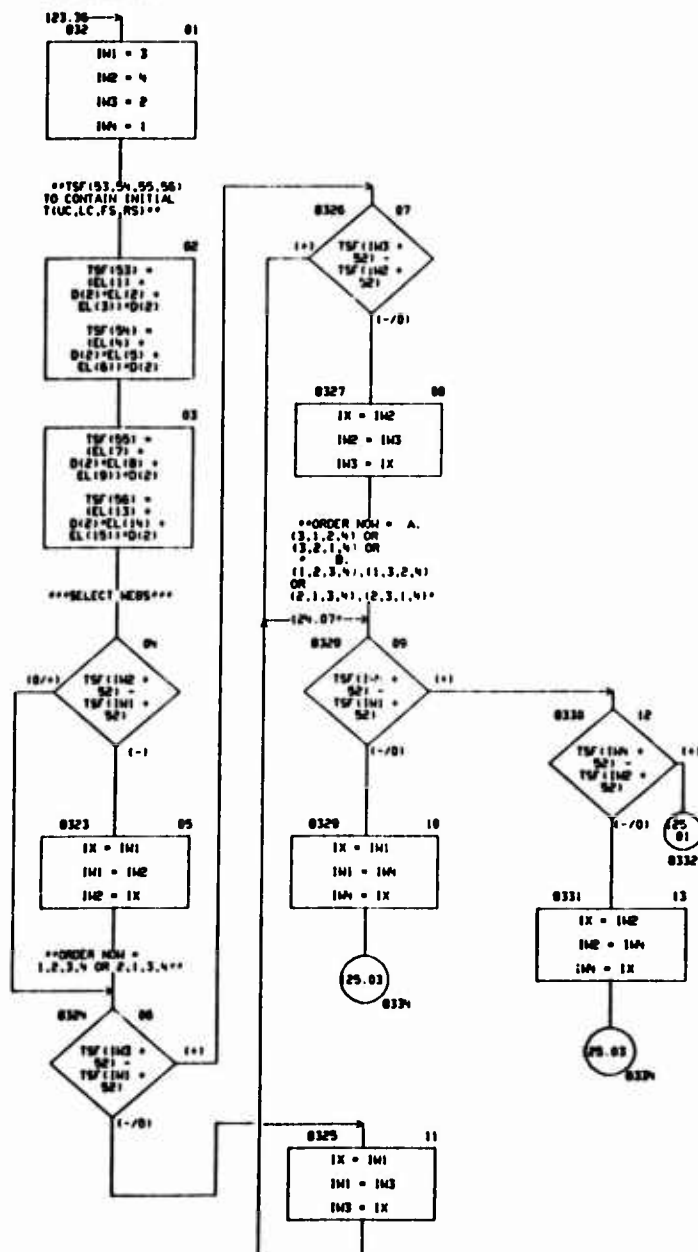
CHART TITLE - SUBROUTINE ASTIFF



2092

\*\*SIZE TO READ  
 PLUTER GJ--INCREASE  
 JUSTIFY BY STEPS\*\*  
 \*\*SETUP ID FOR ORDER  
 OF INCREASE FOR  
 MEAS\*\*  
 \*SELECTION CRITERIA  
 = THINEST TO  
 THICKEST MEAS\*  
 \*ASSURED INITIAL  
 ORDER = FS, RS, LC.  
 LC\*

• [M(1-4)•]11, 112,  
113, 114 • DATER IDS  
• [M1, 112, 113, 114]  
WILL CONTAIN 1,2,3,4  
TO DENOTE WHICH  
• MED IS TO BE  
USED IN THE  
SEQUENTIAL STEPS.



```

graph TD
    0332[0332] --> 01{01}
    01 --> 0333[0333]
    0333 --> 02[02]
    02 --> 03[03]
    03 --> 04[04]
    04 --> 05[05]
    05 --> 06[06]
    06 --> 07[07]
    07 --> 08{08}
    08 --> 09[09]
    09 --> 10{10}
    10 --> 11[11]
    11 --> 12[12]
    12 --> 13[13]
    13 --> 14{14}
    14 --> 15[15]
    15 --> 16{16}
    16 --> 17[17]
    17 --> 18[18]
    18 --> 19[19]
    19 --> 20[20]
    20 --> 21{21}
    21 --> 22[22]
    22 --> 23[23]
    23 --> 24{24}
    24 --> 25[25]
    25 --> 26[26]
    26 --> 27{27}
    27 --> 28[28]
    28 --> 29[29]
    29 --> 30[30]
    30 --> 31[31]
    31 --> 32[32]
    32 --> 33[33]
    33 --> 34{34}
    34 --> 35[35]
    35 --> 36[36]
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    224 --> 225[225]
    225 --> 226[226]
    226 --> 227[227]
    227 --> 228[2
```

## CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T(2060),D(2060),CD(2030),ID(100),TH(600),CT(20-9)
DIMENSION (CMP(10),EL(15),TEL(15,1)),
  TAI(40),TSF(60),SPB(33),SPH(33),
  TBM(11),TBD(11),TBS(11),TBS(11),
  SLCP(5),SABCP(2),
  IM(14),
  STRING(2,10,1),CNT(30)
DIMENSION (JSTD(11),E1STD(11),GJCD(11),E1CD(11),
  ESTD(11),ESTD(11),OCHD(11),ECPD(11),
  GJSFO(11),E1SFO(11),GJCFD(11),E1CFD(11),
  GSFO(11),ESFO(11),GCFD(11),ECFO(11),
  GJFL(11),E1SFL(11),GJFL(11),E1CFL(11),
  GSFL(11),ESFL(11),GCFL(11),ECFL(11),
  GJWFD(11),E1WFD(11),GWFD(11),EWFD(11),
  GJWFS(11),E1WFS(11),GWFS(11),EWFS(11),
  DLROJH(4),GJROD(1),TEIGJ(4),ENOC(5,4)
EQUIVALENCE (CMP(1),D(1155)),(EL(1),T(1300)),(TEL(1,1),TH(1)),
  (TAI(1),CD(40)),(TSF(1),CD(44)),
  (SPB(1),T(1232)),(SPH(1),T(1265)),
  (TBM(1),T(942)),(TBD(1),T(530)),(TBS(1),T(153)),(TBS(1),T(165)),
  (SLCP(1),D(1470)),(SABCP(1),D(423)),
  (CNT(1),T(154)),(C7,CNT(22)),
  (IM(1),IM(1)),(IM(2),IM(2)),(IM(3),IM(3)),(IM(4),IM(4)),
  (TCPLU,CNT(29)),(TCPLL,CNT(30)),(TCPLF,CNT(32)),
  (TCPLR,CNT(33)),
  (ACID,D(430)),(STRING(1,1,1),T(1676)),
  (IPB,NO(24))
EQUIVALENCE (JSTD(1),CD(1)),(E1STD(1),CD(12)),(GSTD(1),CD(23)),
  (ESTD(1),CD(34)),(GJCD(1),CD(45)),(E1CD(1),CD(56)),
  (OCHD(1),CD(67)),(ECPD(1),CD(78)),
  (GJSFO(1),CD(89)),(E1SFO(1),CD(100)),(GJCFD(1),CD(111)),
  (EWFD(1),CD(122)),(GJSFO(1),CD(133)),(E1SFO(1),CD(144)),
  (GSFO(1),CD(155)),(ESFO(1),CD(166)),(GJCFD(1),CD(177)),
  (E1CFD(1),CD(188)),(GCFD(1),CD(199)),(ECFO(1),CD(210)),
  (GJFL(1),CD(221)),(E1SFL(1),CD(232)),(GSFL(1),CD(243)),
  (ESFL(1),CD(254)),(GJFL(1),CD(265)),(E1CFL(1),CD(276)),
  (GCFL(1),CD(287)),(ECFL(1),CD(298)),(DLROJH(1),C(1309)),
  (GJROD(1),T(166)),
  (TEIGJ(1),TH(703)),(ENOC(1,1),TH(707)),
  (GJWFS(1),CD(353)),(E1WFS(1),CD(364)),(GWFS(1),D(1251)),
  (EWFS(1),CD(375)),(EWFS(1),CD(386))
REAL IEL
@40 FORMAT(20H) ***ASTIFF SUBR***,/END CD)
@41 FORMAT (1H,1X,13,2X,5C16.0)

```

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AUTOFLOW CHART SET - SHEEP MIND AC EFFICIENT MODULE - PAGE 127

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ACC10J\*\*\*\*\*

\*\*\*TORQUE-BOX E1/GJ EVALUATION - ADV. COMP. ANALYSIS\*\*\*

\*\*\*\*\*

CHART TITLE - SUBROUTINE ACEIGJHS,10,AE1,AGJ,AE,AGJ

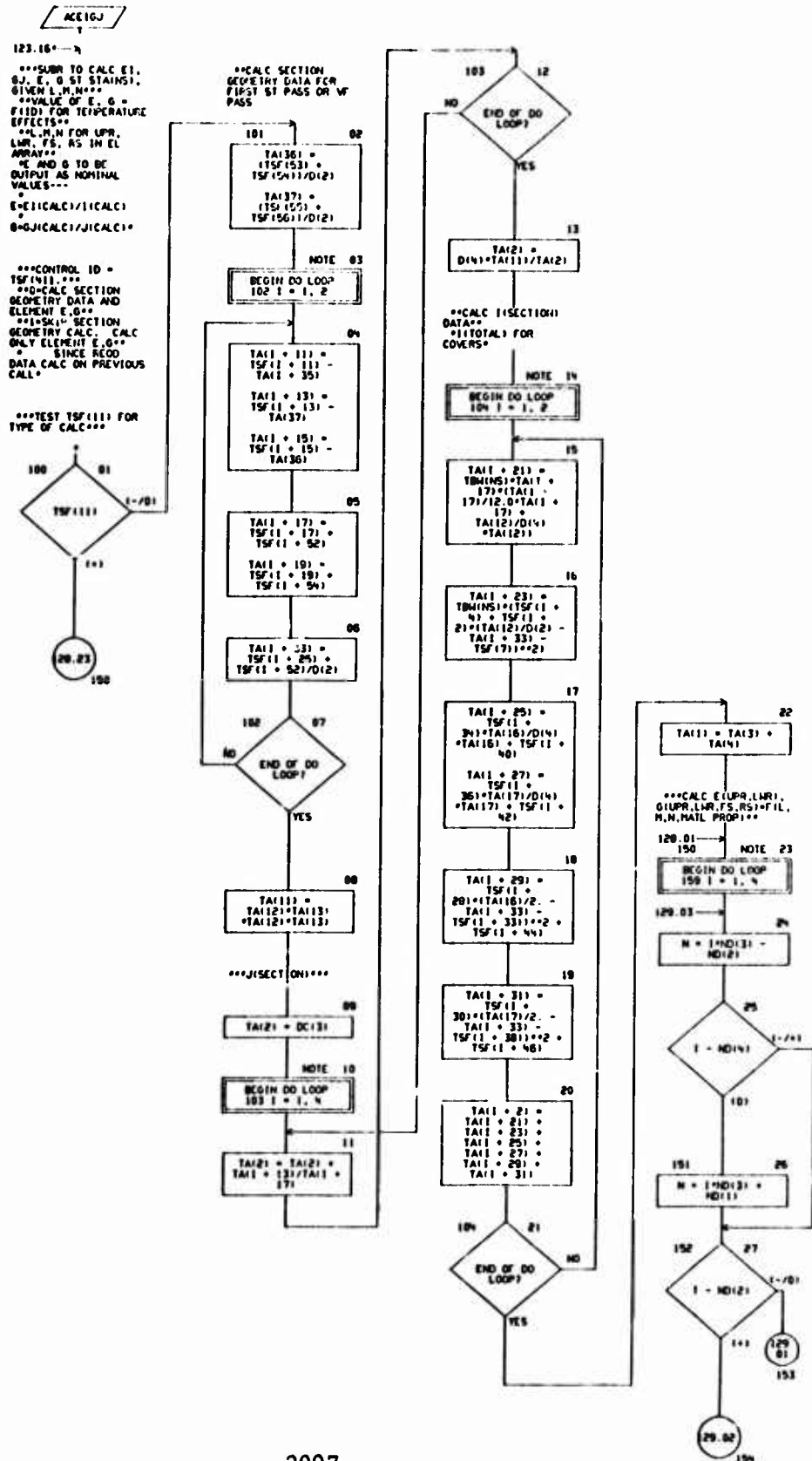
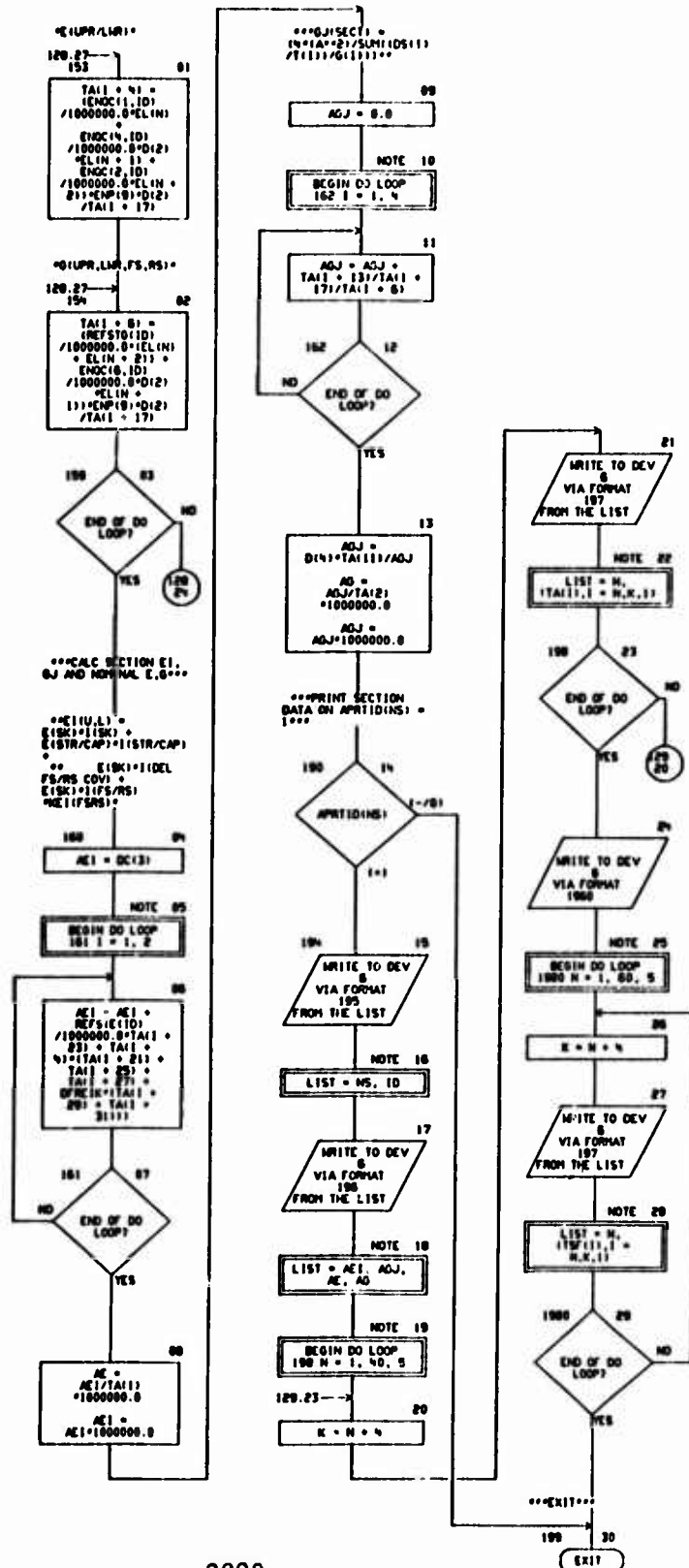




CHART TITLE - SUBROUTINE ACETGINS, ID, AE1, AGJ, AE, AG1



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AUTOFLOW CHART SET - SHEET WIND AND ESTIMATE MODULE - PAGE 130

CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T(9:EB)
DIMENSION D(200),CD(200),ND(100),TW(900),CT(200),DC(100),
ENP(9),EL(15),ENOC(6,N),REFSTG(4),REFSTG(4),
TA(4),TSF(60),
APRT(2:12),
TBH(1)
EQUIVALENCE (D(1),T(200)),(CD(1),T(412)),(ND(1),T(612)),
(TW(1),T(622)),(CT(1),T(712)),(DC(1),D(140)),
(ENP(1),D(1155)),(ENOC(1,1),TW(707)),(EL(1),T(1350)),
(REFSTG(1),TW(811)),(REFSTG(1),TW(815)),
(TA(1),CD(401)),(TSF(1),CD(441)),
(APRT(1),T(1070)),
(TBH(1),T(1542)),(DFRE(1),DC(14))
105  FORMAT (24H0  **ACE10J SUDR -- STA 12,6H  ID= ,11,2H** )
106  FORMAT (1H0,6X,4E16.0,7H0  TA )
1060  FORMAT (6H0 TSF )
107  FORMAT (3X,12,3X,5E16.0)

```

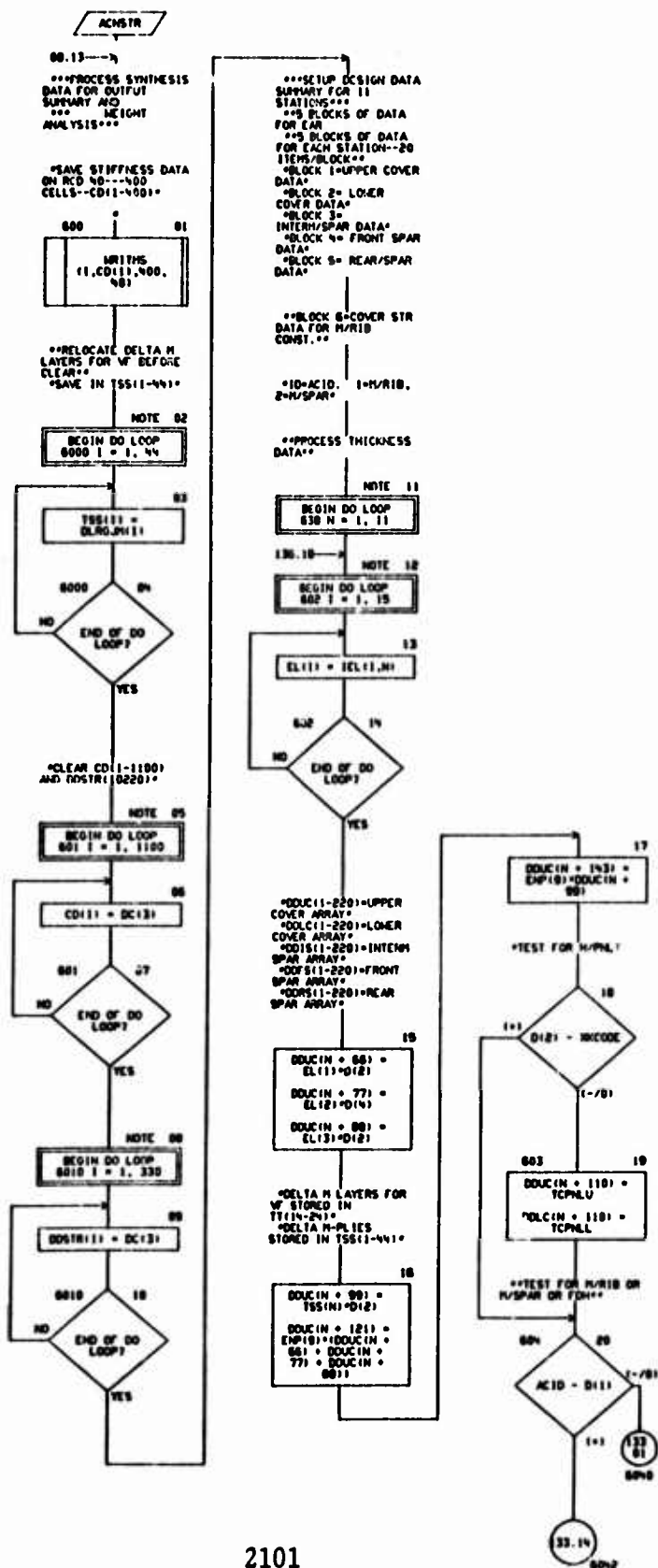
06/14/76

AUTOFLOW CHART SET - SHEEP WINGS AND EMPENNAGE MODULE - PAGE 131

CHART TITLE - INTRODUCTORY COMMENTS

```
*****  
*****SUBROUTINE ACNSTR*****  
***SECTION DESIGN DATA/MT ANALYSIS CONTROL - ADV. COMP. ANALYSIS***  
*****
```

CHART TITLE - SUBROUTINE ACNSTR



•TEST FOR FULL DEPTH  
MONETCMB•

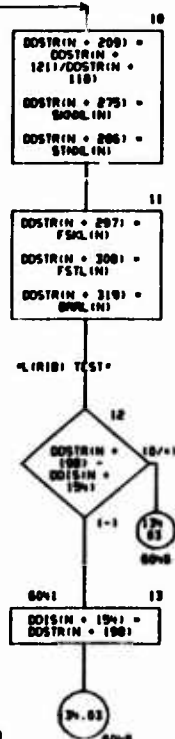
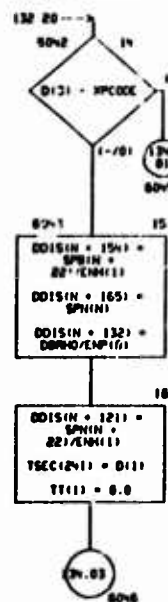
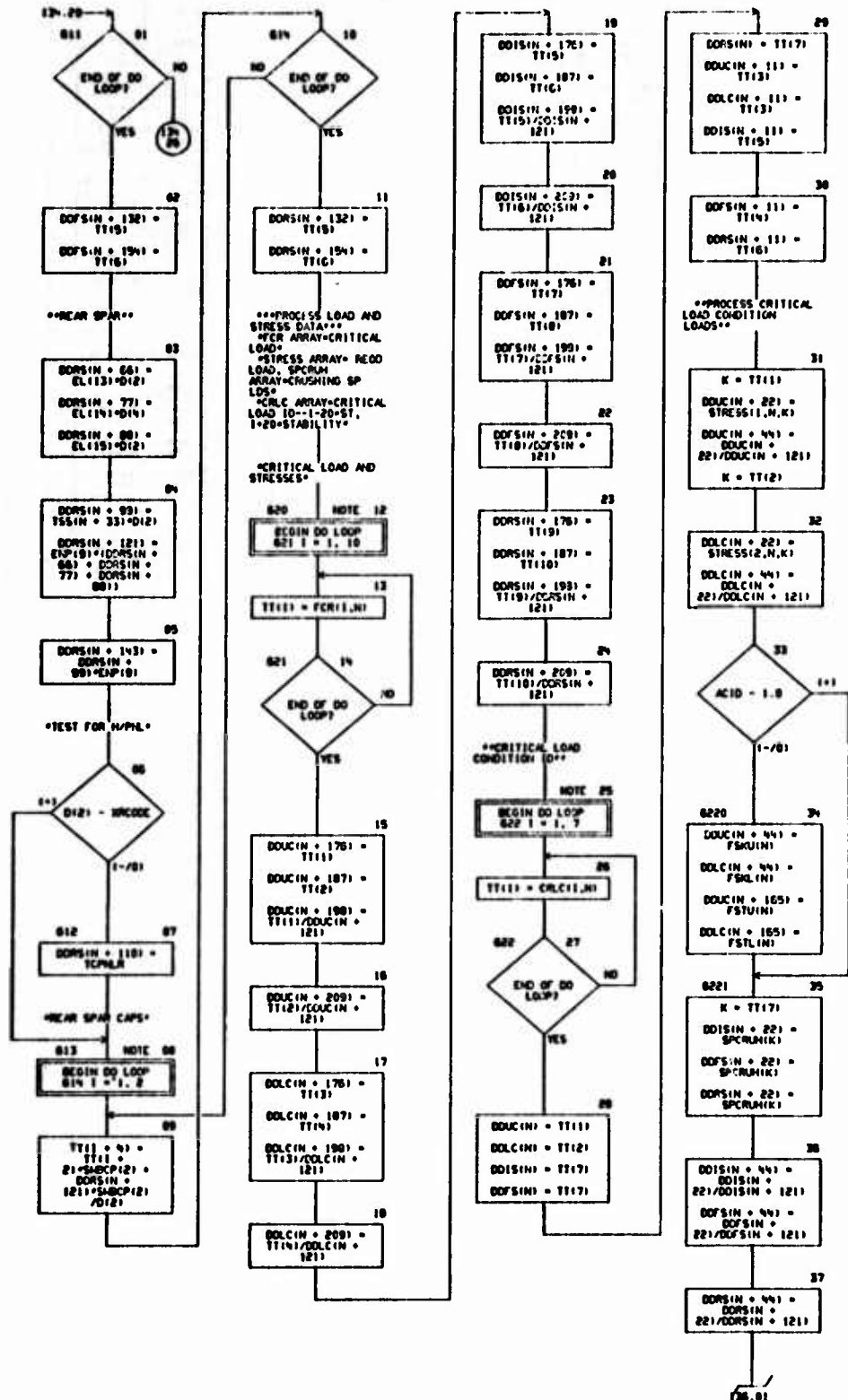
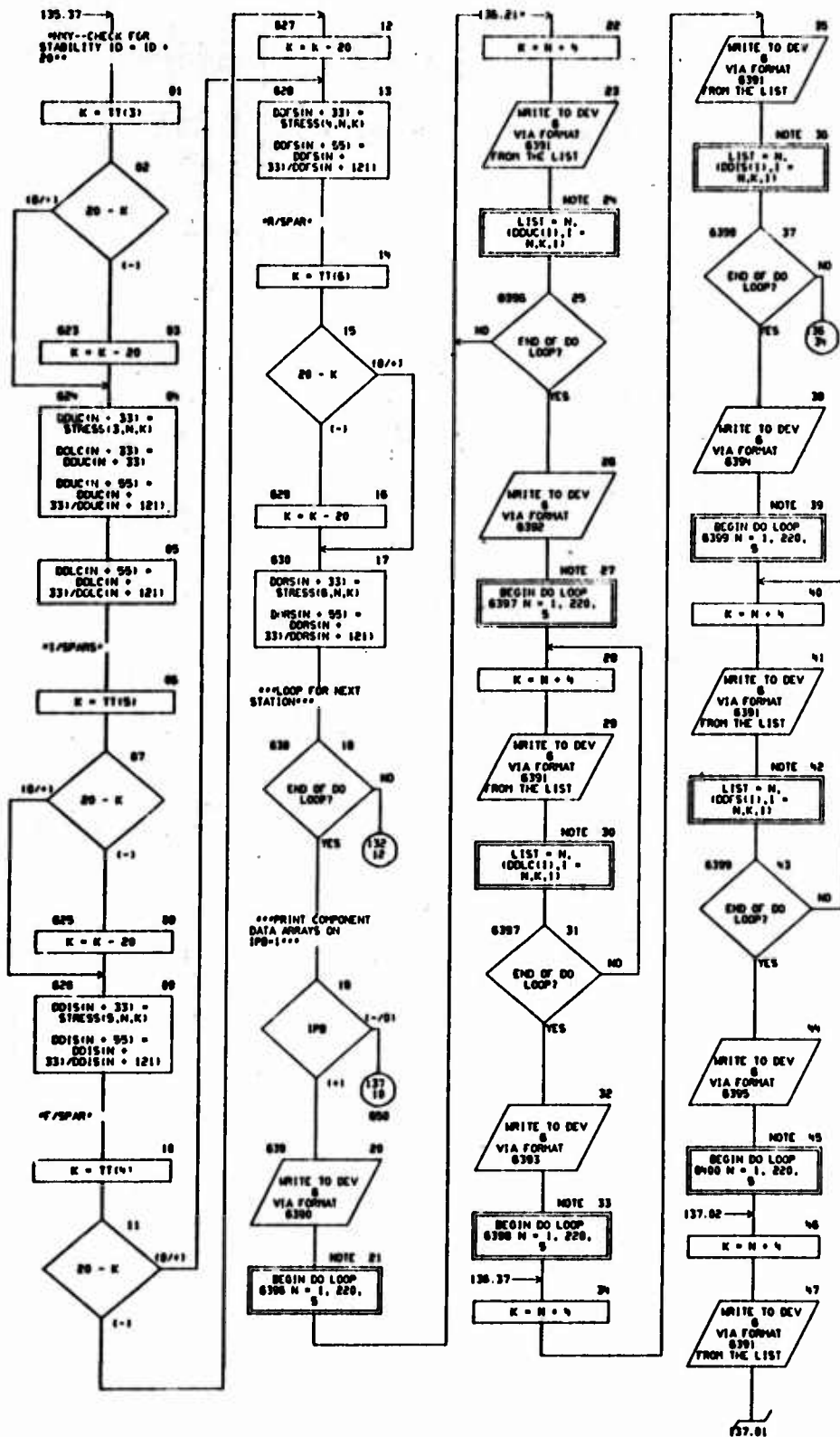




CHART TITLE - SUBROUTINE ACNSTR



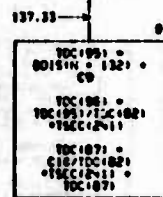
2105





2106

6533



TDC(1C3) -  
TDC(1C2)

137.3  
053

TDC(107) =  
ODISIN = 121  
TDC(00) = DC(3)

TDC(109) =  
BOLCIN = 1941

TDC(110) =  
BOLCIN = 1941

..PROCESS IN/PL  
NO PROTECTIVE FINISH  
DATA AS REQD..  
..UPPLER INSERT AREA  
..CO NO C10--0.0 FOR  
PLATES/SIR..

```

DC(10) =
  DDCIN +
  IIR*DC(1)
  ADP(5)

DC(100) =
  DDCIN +
  IIR*DC(1)
  ADP(5)

```

```

TDC1103) =
DTSIN =
1101TDC11
ADP101

TDC1104) =
PTSCV/DP101

TDC1105) =
PTSCV/DP101

```

```

TTC(100) =
PTTSP-CP(0)
TT(2) = CTRIS

```

TT14.S1 =  
YEAR/FILLER-UP/LAR)  
AT SPAR/RIS FOR  
• R/SPAR AND  
R/SPAR ONLY  
• TT14.S1 = 0.0  
FOR FOR

```

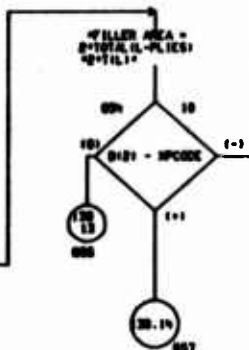
TT(1) =
  S(1)-DP(1)
  COLIN = 65
  TT(1) =
  S(1)-DP(1)
  COLIN = 65
  TT(1) = COLIN =
  110  COLIN =
  120

```

```

TT(7) = TDC(100) *
1101 = DO(15400) *
1201
TT(8) = TDC(107)

```



•••••

```

TT(0) = COISIN *
      521 * UNIT3
      /DP(0)
TT(1) = 0(1)
TT(2) = 0(1)
TSC(0) =
      10000 *
      NTSCV / DP(0)

```

12

TDC(105) =  
IDB(4) =  
PTTSCV/DP(8)  
TDC(103) = DC(3)  
TDC(108) = DC(3)

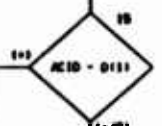
656

120.10 — 12

TDC106) •  
(D894) •  
PT55P1/EAP10)  
T1(2) • D(1)

130.10 → 657 14  
T1111 = TSEC12411

\*\*\*\*\*



```

TT(1) = D(1)
TT(2) = CFAID
TDC(82) =
DOSTRIN)
TDC(95) =
DOSTRIN = (1)

```

```

TDC(06) =
DOSTRIN * 00)

TDC(08) =
DOLCIN * (21) *
TDC(06)

TDC(173) =
DOSTRIN * (21)

```

```

TDC(107) =
  BDLCHN + 121) +
  BOSTRIN + 200)
TT(6) = TDC(107)
TT(7) = TDC(107)

```

10  
TDC(09) =  
D(2)\*TDC(107)  
/TDC(100)

..SETUP T-BAR AND  
PRIME DATA AND  
PROCESS SPAR/RIB  
DATA

```

VOLD(1SEC) =
TDC(100)

VOLD(1SEC) =
TDC(110)

TDC(73) =
TDC(70) -
TDC(100) -
TDC(110)

```

```

      TT(3) =
      YDC(73)*TT(1)
      /YDC(100)*TT(2)

      YDC(100) =
      YDC(100)*TT(3)

      YDC(103) =
      YDC(103)*TT(3)

```

CHART TITLE - SUBROUTINE ACNSTR

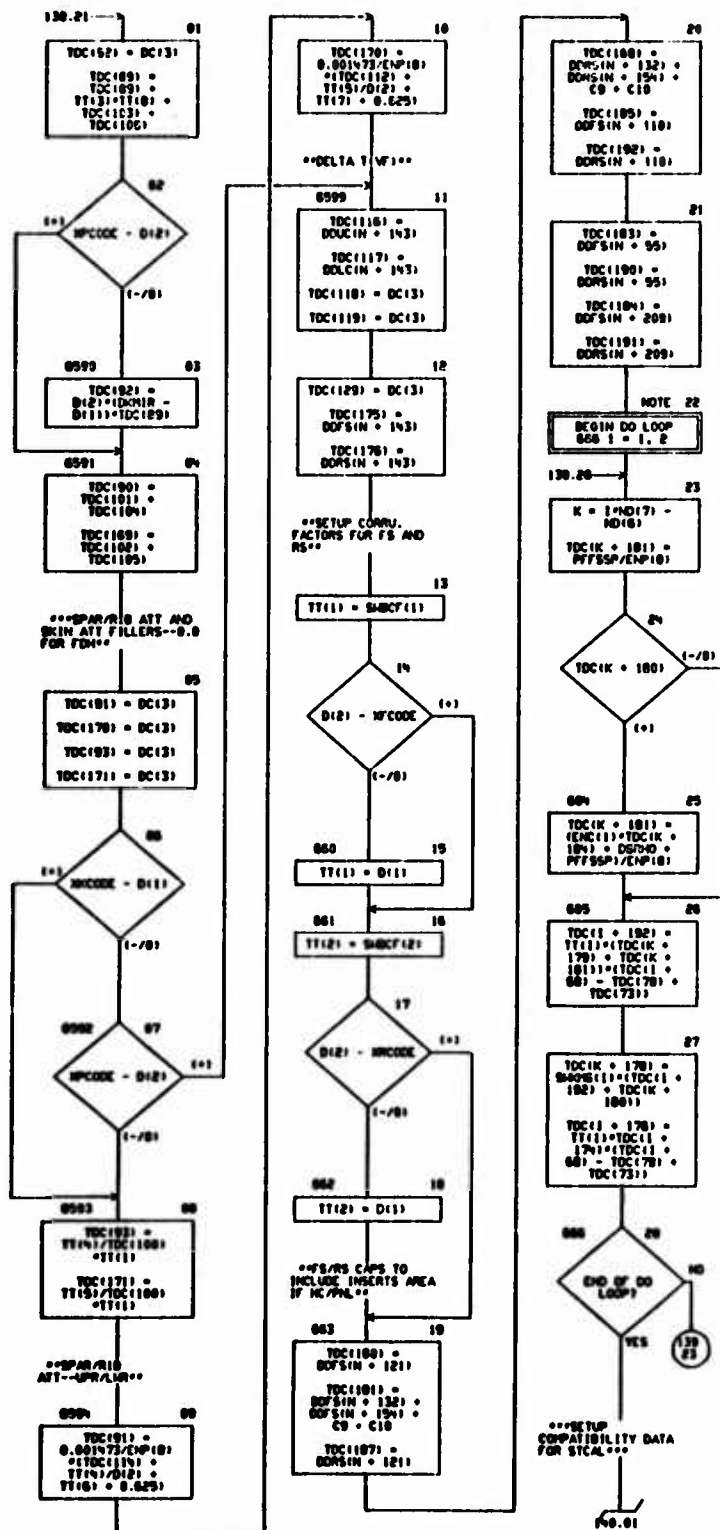
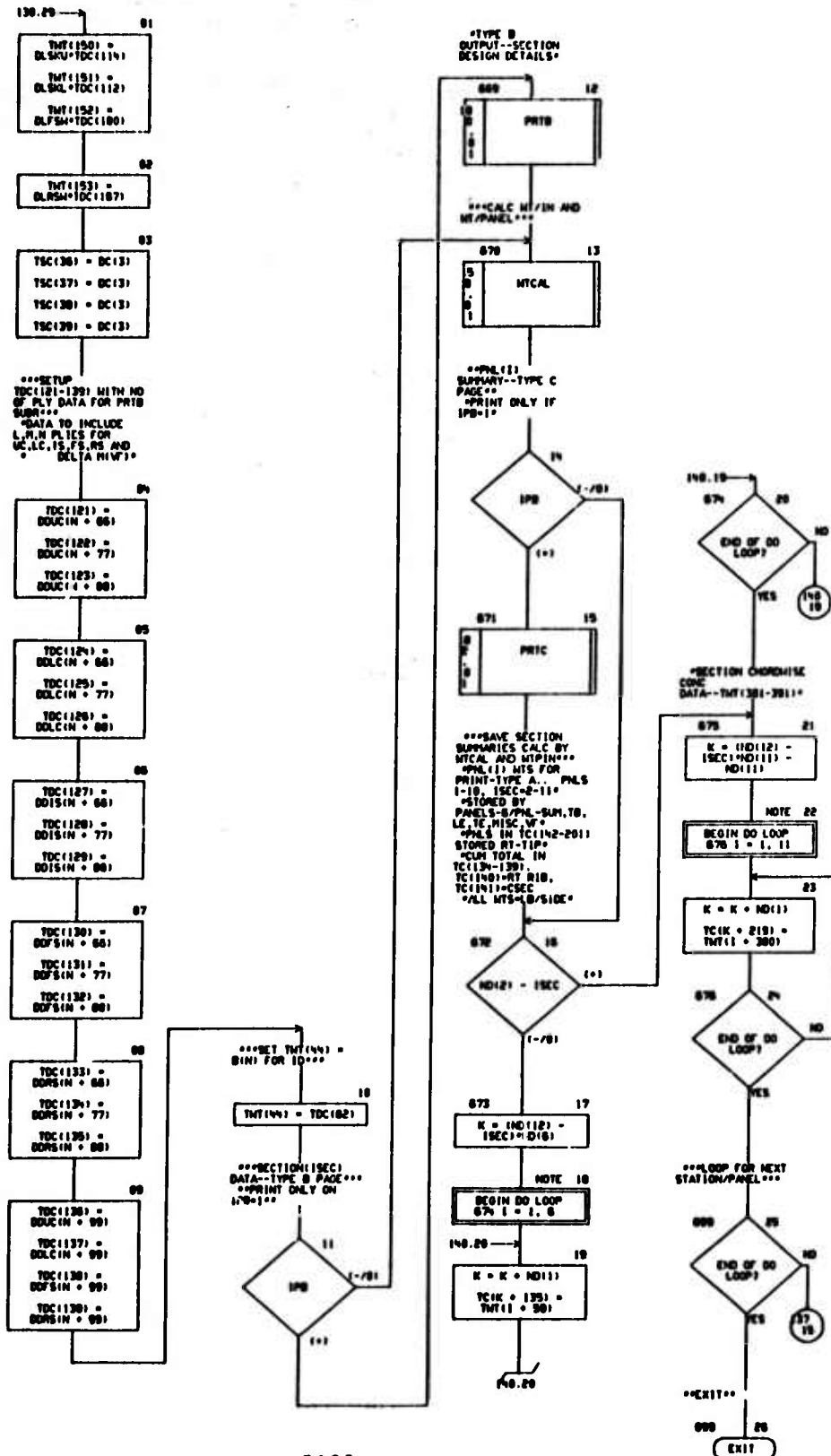


CHART TITLE - SUBROUTINE ACNSTR



## CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T(2060),D(2060),CD(2000),ND(100),TH(900),CT(2040)
DIMENSION DC(100),TDC(200),TSC(420),TSS(100),TMT(400),TSEC(300),
TC(240),TD(40),TT(24),DCL(30),
TBN(11),
DJNT(11),DBLND(11),SLCFS(5),SMBCP(2),SMBCF(2),
YBLD(11),YBLD(11),YPU(11),YBL(11)
DIMENSION CNT(30),SPB(33),SPH(33),SPCRM(11),DLRPM(44),
ENP(0),ENH(4),ENC(3),EL(15),
ICL(10,11),CALC(7,11),FCR(10,11),STRESS(0,11,20),
STRING(2,10,11),
BRNU(11),BRNL(11),
SBOOS(2),
SBOOU(11),STNOU(11),SBOUL(11),STNOL(11),
FSTU(11),FSTU(11),FSKL(11),FSTL(11),
DOSTR(330),
DOUC(220),DOLC(220),DOIS(220),DOFS(220),DORS(220)
EQUIVALENCE (DC(1),D(14011),TDC(1),T(12411),TSC(1),D(10411),
TSS(1),T(10611),TMT(1),CD(11011),TSEC(1),CD(15011),
TTC(1),T(10601),T(011),T(10201),T(11),T(13171),
(SMBCF(1),D(4271),TCFR(10,D(4001),DBR(10,D(4041),
(SMBCP(1),D(4231),DBLND(1),D(0501),DJNT(1),D(0611),
(SLCFS(1),D(14701),DCL(1),TMT(2511),TBN(1),T(04211),
(DBLND,TMT(2001),DJNT,TMT(2011),YPU(11),TSEC(1331),
(YBL(1),TSEC(1661),YBLD(1),T(6701),YBLD(1),T(0901),
(DLRPM,DEL(21),DLRSL,DEL(151),DLFSH,DEL(151),DLRSH,DEL(101),
(TSEC,ND(051),INDCL,ND(061),TC,ND(401),CPB,ND(241),CF,ND(031),
,IPFFSCV,CT(20471),IPFFSP,CT(20401)
, (SBOOU(1),TH(1601),STNOU(1),TH(1771),FSKU(1),TH(1001)
, (FSTU(1),TH(1001),SBOUL(1),TH(2101),STNOL(1),TH(2211)
, (FSKL(1),TH(2321),FSTL(1),TH(2431)
, (BRNU(1),TH(2541),BRNL(1),TH(2651)
EQUIVALENCE (ENP(1),D(11051),ENH(1),D(11041),ENC(1),CT(20431),
ICL(1),T(13001),ICNT(1),T(10411),IC7,CNT(221),
(CALC(1,1),T(0601),FCR(1,1),T(11001),ICL(1,1),TH(11),
(STRESS(1,1,1),CT(11),STRING(1,1,1),T(10701),
(SPB(1),T(12321),SPH(1),T(12051),SPCRM(1),T(10321),
(DLRPM(1),CD(3091),SBOOS(1),D(1101),DKMR,D(241),
ICB,CNT(131),IC10,CNT(1351),
(DOUC(1),CD(111),DOLC(1),CD(2211),DOIS(1),CD(4411),
DOFS(1),CD(0611),DORS(1),CD(0011)
, (TCPMLU,CNT(201),TC/ALL,CNT(301),TCPML1,CNT(311)
, (TCPMLF,CNT(321),TCPMLR,CNT(331)
, (DOSTR(1),CT(13211),IC10,D(4301)
, (INCODE,CNT(101),INPCODE,CNT(201)
, (INFCODE,CNT(271),INPCODE,CNT(201)

```

REAL ICL

```

6300 FORMAT (20H1 ***SECTION DESIGN DATA**/,END DOUC)
6301 FORMAT (1H 2X,13,SE10.0)
6302 FORMAT (0H1 DOLC)
6303 FORMAT (0H1 DOIS)
6304 FORMAT (0H1 DOFS)
6305 FORMAT (0H1 DORS)
6402 FORMAT (0H1 DOSTR )

```

08/14/76

AUTOFLOW CHART SET - SHEEP MIND AND EMPERORAGE MODULE - PAGE 142

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE ACPTA\*\*\*\*\*

\*\*\*DESIGN DATA PRINT - TYPE A TORQUE-BOX SYNTHESIS SUMMARY - ADV. CO

\*\*\*\*\*





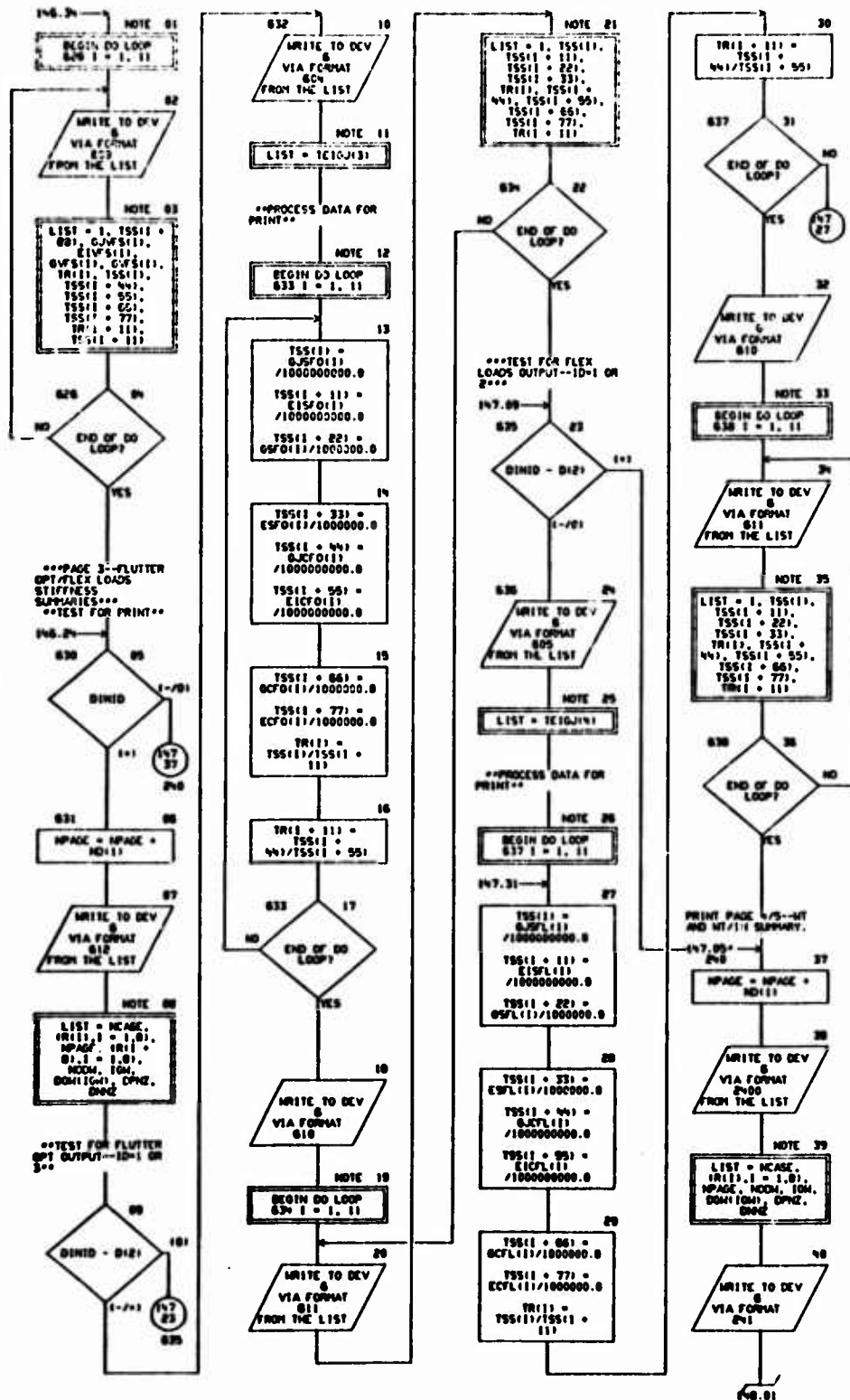


[illegible]

```

    graph TD
        Start(( )) --> S1[INQ. IN<br/>600]
        S1 --> B1[NOTE 01<br/>BEGIN DO LOOP<br/>600 I = 1, 11]
        B1 --> P1[TSS(I) =<br/>100C(I) + 12(I) +<br/>1N3(I)/100C(I) +<br/>12(I)]
        P1 --> P2[TSS(I) = 2(I) +<br/>100C(I) + 12(I) +<br/>1N3(I)/100C(I) +<br/>12(I)]
        P2 --> P3[TSS(I) = 3(I) +<br/>100C(I) + 12(I) +<br/>1N3(I)/100C(I) +<br/>12(I)]
        P3 --> D1{6000 0N}
        D1 -- NO --> E1[END OF DO<br/>LOOP]
        D1 -- YES --> T1[***TEST FOR NEW<br/>PAGE. ON/SPIN AND<br/>FNU:***]
        T1 --> D2{0(I) - ACID<br/>1-1}
        D2 --> E1
        D2 -- 1-1 --> S2[INPAGE = INPAGE +<br/>ND(I)]
        S2 --> P4[/WRITE TO DEV<br/>0<br/>VIA FORMAT<br/>82<br/>FROM THE LIST/]
        P4 --> N1[NOTE 00<br/>LIST = NCAGE,<br/>IR(I), I = 1, 8),<br/>INPAGE, IN(I),<br/>8(I) = 1, 8),<br/>NCCM, 10(I),<br/>DOM(I)G(I), DPN(I),<br/>DPN(I)]
        N1 --> S3[**SETUP C(I) = 40(I)<br/>FROM ACID 40(I)**]
        S3 --> S4[6010]
        S4 --> P5[/READS<br/>11, C(I)11, 40(I),<br/>8(I)]
        P5 --> P6[/WRITE TO DEV<br/>0<br/>VIA FORMAT<br/>82<br/>FROM THE LIST/]
        P6 --> N2[NOTE 11<br/>LIST = TEIG(I)1]
        N2 --> S5[40(I, X(I)0-9, 10, X(I)<br/>X(I)0-9**]
        S5 --> S6[620]
        S6 --> B2[NOTE 12<br/>BEGIN DO LOOP<br/>620 I = 1, 11]
        B2 --> P7[6JSTD(I) =<br/>6JSTD(I)<br/>/100000000.0]
        P7 --> P8[EJSTD(I) =<br/>EJSTD(I)<br/>/100000000.0]
        P8 --> P9[OSTD(I) =<br/>OSTD(I)/1000000.0]
        P9 --> P10[ESTD(I) =<br/>ESTD(I)/1000000.0]
        P10 --> P11[TSS(I) * 4(I) =<br/>6JSTD(I)<br/>/100000000.0]
        P11 --> P12[TSS(I) * 9(I) =<br/>EJSTD(I)<br/>/100000000.0]
        P12 --> P13[TSS(I) * 8(I) =<br/>OSTD(I)/1000000.0]
        P13 --> P14[TSS(I) * 7(I) =<br/>ESTD(I)/1000000.0]
        P14 --> P15[IR(I) =<br/>6JSTD(I)/EJSTD(I)]
        P15 --> S7[WRITE TO DEV<br/>0<br/>VIA FORMAT<br/>82<br/>FROM THE LIST/]
        S7 --> E2((47.00))
        S7 --> S8[INQ. IN<br/>600]
        S8 --> B1
    
```

CHART TITLE - SUBROUTINE ACPRIA





[illegible]

2119

CHART TITLE - NON-PROCEDURAL STATEMENTS

```

COMMON T12201,D12201,CD12001,ND11001,TMT1111,CT120401
COMMON /MISC/ NMISC11001
DIMENSION DC11001,TDC12001,TSC14201,TSS11001,TMT14001,TSEC13001,
TCT1201,T01401,T1401,
VSTRC1111,TB1P1111,GJRD1111,
TODM111,ODM111,
TDM111,TDM111,TDM111,
ULTPM111,ULTPM111,ULTPT111,
ULTNM111,ULTNM111,ULTNT111,
YBL1111,YBL1111,YBLD1111,YBLD1111,
R1101
DIMENSION DOUC12201,DOLC12201,DOIS12201,DOFS12201,DOIS12201,
TE10141,DOSTR13201,
GJSTO1111,ESTO1111,GSTO1111,ESTO1111,
GJCD1111,EICD1111,OCPO1111,ECHD1111,
GJFS1111,E1FS1111,GVFS1111,E1VS1111,
GJWD1111,E1WD1111,GVWD1111,E1WD1111,
GJWF1111,E1SF1111,GVWF1111,E1SF1111,
GJCF1111,E1CF1111,OCFO1111,E1CF1111,
GJFL1111,E1FL1111,GVFL1111,E1FL1111,
GJCL1111,E1CL1111,OCFL1111,E1CL1111
JENH151
EQUIVALENCE (DC111,D114011),(TDC11,T113411),(TSC11,T115411),
(TSS11,T119611),(TMT11,CD111011),(TSEC11,CD112011),
(TCT11,T108011),(T011,T10201),(VSTRC11,TSEC110811),
(TODM11,D1011),(ODM11,D11021),(ODM2,T1201),(OD22,T1211),
(TRE11,T113001),(R111,NMISC1051),
(TDM11,CD110201),(TDM11,CD119701),(TDMT11,CD119901),
(ULTPM11,TSEC1121),(ULTPM11,TSEC1111),(ULTPT11,TSEC114411),
(ULTNM11,TSEC111111),(ULTNM11,TSEC112211),(ULTNT11,TSEC115511),
(YBL111,TSEC113311),(YBL111,TSEC110911),(TB1P111,T174511),
(YBLD11,T167011),(YBLD11,T169011),(GJRD11,T166011),
(INDM1D,T15711)
EQUIVALENCE (INASE,ND1601),(INOM,ND1561),(ION,ND1611),
(IACV1D,D14311),
(INPASE,ND1051)
EQUIVALENCE (W1D,D12511),(D1N1D,D12711),(TE1011,TMT70311),
(DDUC11,CD1111),(DOLC11,CD12211),(DOIS11,CD14411),
(DOFS11,CD10611),(DOIS11,CD10011),
(GJSTO11,CD1111),(ESTO11,CD11211),(GSTO11,CD12311),
(ESTO11,CD13411),(GJCD11,CD14511),(EICD11,CD15611),
(OCPO11,CD16711),(ECHD11,CD17011),
(GJFS11,CD13511),(E1FS11,CD13611),(GVFS11,CD137511),
(E1VS11,CD136611),(GJWD11,CD10911),(E1WD11,CD110011),
(GVWD11,CD111111),(E1WD11,CD112211),
(GVWF11,CD113311),(E1SF11,CD114411),(GVWF11,CD115511),
(E1SF11,CD116611),(GJCF11,CD117711),(E1CF11,CD110011),
(OCFO11,CD119911),(E1CF11,CD121011),
(GJFL11,CD12211),(E1FL11,CD123211),(GVFL11,CD124311),
(E1FL11,CD125411),(GJCL11,CD126511),(E1CL11,CD127611),
(OCFL11,CD129711),(E1CL11,CD129011),
(DOSTR11,CT113211),(AC1D,D143011),
(ENH11,D1110411)
310 FORMAT (16H CASE,14,1X,0A10,14H *ACPTA* PAGE,14,1X,0A10,12H,6H
NDOM,11,6H 10M11,6H DGM19,1,6H 12M19,3,2H19,3,73H
--DESIGN SUMMARY DATA--NO-KIPS/IN. STRESS-KSI--- /S
4H --SECTION LOAD AND THICKNESS DATA--STRENGTH DESIGN--
)
311 FORMAT (34H --LAMINATE PLY DATA-- )
3111 FORMAT (42H --LAMINATE PLY AND CORE DATA-- )
312 FORMAT (60H --APPLIED STRESS LEVELS AND CRITICAL LOAD C
ONDITION ID-- )
313 FORMAT (100H SECT NAME NO/LC NO/YAL NO/E/S O/S O/S TSK/

```

## CHART TITLE - NON-PROCEDURAL STATEMENTS

```

      U TSKAL T-U T-L TCU THUS B/SP N/SP TH/TS TH/RT)
3130 FORMAT (100H SECT N/KUC N/KLC N/KYL N/C/S O/S O/TS G/AS TSK/
      U TSKAL T-U T-L T/RIB L/RIB B/STR N/S TH/TS TH/RT)
3131 FORMAT (100H SECT N/KUC N/KLC N/KYL N/C/S O/S O/TS O/RS TSK/
      U TSKAL T-U T-L T/COE N/K/C TH/TS TH/RS )
314 FORMAT (1X,12,3F7.2,F6.2,F5.2,F6.2,F6.3,F6.2,F5.1,2F6.3)
3140 FORMAT (1X,12,3F7.2,F6.2,F5.2,F6.2,F6.3,F6.2,F5.1,2F6.3)
3141 FORMAT (1X,12,3F7.2,F6.2,F5.2,F6.2,F6.3,F7.4,F6.2,2F6.3)
315 FORMAT (100H SECT L/KUC N/KUC N/KC N/KU L/KC N/KC N/KC N/L L/S N/L
      S N/S L/TS N/TS N/TS N/RT L/RS N/RS N/RS N/RT)
3150 FORMAT (110H SECT L/KUC N/KUC N/KC L/SU N/KU L/KC N/KC N/KC L/SL N/K
      L L/R N/R N/R L/TS N/TS N/TS N/RT L/RS N/RS N/RS N/RT)
3151 FORMAT (100H SECT L/KUC N/KUC N/KC N/KU L/KC N/KC N/KC N/L S/C
      T/T DEN/T L/TS N/TS N/TS N/RT L/RS N/RS N/RS N/RT )
316 FORMAT (1X,12,1F5.1)
3160 FORMAT (1X,12,2F5.1)
3161 FORMAT (1X,12,8F5.1,F6.1,F6.1,F6.3,8F5.1)
317 FORMAT (100H SECT F/CUC F/S/C CLCU CLSU F/T/C F/S/C CLCL CL
      BL F/S/IS CLSIS F/S/TS CLS/S F/S/RS CLS/RS)
3170 FORMAT (110H SECT F/C/SU F/S/SU F/CSTU CLCU CLSU F/TSKL F/S/SU F
      TSKL CLCL CLSL F/S/IS CLSIS F/S/TS CLS/S F/S/RS CLS/RS)
318 FORMAT (1X,12,2F7.2,F5.1,1X,2F7.2,F5.1,1X,2F7.2,F6.1,1X,2F7.2,F6.1
      ,1X,2F7.2,F6.1)
3180 FORMAT (1X,12,3F7.2,F5.1,1X,3F7.2,F5.1,1X,2F7.2,F6.1,1X,2F7.2,F6.1
      ,1X,2F7.2,F6.1)
319 FORMAT (12X,40H--- ---UPPER COVER DATA--- ---,2X,4
      0H--- ---LOWER COVER DATA--- ---)
3190 FORMAT (100H SECT L/RIS ASTR BSTR TSTR MSTR F YBAR 1101
      L/L/L ASTR BSTR TSTR MSTR F YBAR 1101 L/L/L )
3191 FORMAT (1X,12,1X,F6.1,1X,F6.3,F6.2,F6.3,F5.2,3F6.3,F6.2,2X,F6.3,F6
      ,2,F6.3,F6.3,F6.3,F5.2)
600 FORMAT (40H0 ---BASIC STIFFNESS SUMMARY AT,F7.1,12H DEGRE
      ES---)
603 FORMAT (51H0 ---FLUTTER ANALYSIS STIFFNESS SUMMARY AT,F7.
      1,12H DEGREES---)
604 FORMAT (62H0 ---STIFFNESS SUMMARY FOR FLUTTER OPTIMIZATIO
      N ANALYSIS AT,F7.1,12H DEGREES---)
605 FORMAT (62H0 ---STIFFNESS SUMMARY FOR FLEXIBLE LOADS ANAL
      YSIS AT,F7.1,12H DEGREES---)
606 FORMAT (100H SECT C-J-ST E1-ST 0-ST E-ST GJ/EI GJ-CMP
      E1-CMP 0-CMP E-CMP GJ/EI RISKU RISKL RTH/S RTH/RS)
607 FORMAT (1X,12,2F6.3,F7.3,F6.3,F6.3,2X,F6.3,F7.3,F6.3,F6.3,2X,F6.
      3)
608 FORMAT (100H SECT GJ-W GJ-ST E1-ST 0-ST E-ST GJ/EI
      ROLG GJ-CMP E1-CMP 0-CMP E-CMP GJ/EI ROLC )
609 FORMAT (1X,12,F6.3,2X,F6.3,F7.3,F6.3,F6.3,2X,F6.3,F7.3,F6.3,F6
      ,3)
610 FORMAT (100H SECT GJ-ST E1-ST 0-ST E-ST GJ/EI GJ-CMP
      E1-CMP 0-CMP E-CMP GJ/EI)
611 FORMAT (1X,12,2F6.3,F7.3,F6.3,F6.3,2X,F6.3,F7.3,F6.3,F6.3)
612 FORMAT (10H CASE,14,1X,8A10,14H *ACFRTA* PAGE,14,14X,8A10,24X,6H
      NCGM=,11,6H 10M=,11,6H DGM=F6.1,6H MZ=F6.3,24,F5.3,7F6H
      ---TORQUE BOX STIFFNESS SUMMARIES---10J,E1=1101-9),10
      ,E=1101-81--- )
6230 FORMAT (52H0 ---NO FLUTTE: STIFFNESS PENALTIES--- )
2400 FORMAT (10H CASE,14,1X,8A10,14H *ACFRTA* PAGE,14,24X,6H NCGM=11,6
      H 10M=11,6H DGM=F6.1,6H MZ=11,6H,24,F5.3)
241 FORMAT (52H ---PANEL WEIGHT SUMMARY. LBS/SIDE---/10
      4H PANEL SUM T-BOX L.E. T.E. MISC. DEL
      TA W TYP RT-RIB C SECT)
243 FORMAT (7H TOTAL,F12.2,F11.2,2F10.2,F6.2,F10.2,F11.2,2X,2F10.2,F7
      H INED,F12.2,F11.2,2F10.2,F6.2,F10.2,15X,F10.2)
244 FORMAT (1X,12,1X,F12.2,F11.2,2F10.2,F6.2,F10.2)

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## CHART TITLE - NON-PROCEDURAL STATEMENTS

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845 FORMAT (7H 000,F10.2,F11.2,F10.2,F9.2,F10.2,F11.2)
851 FORMAT (40H ---SECTION/INCH SUMMARY---/END SECT.
      TOTAL T-BRK L.E. T.E. MISC. DELTA W CONC.
      ITEMS )
852 FORMAT (4X,12,1X,F10.4,F11.4,F10.4,F9.4,F10.4,F11.4)
861 FORMAT (40H ---SECTION LOADS SUMMARY--- /110H SECT.
      +VULT) +MULT) +TULT) -VULT) -MULT) -TULT
      T) UDM1-0) PMH1-0) TDM1-0) )
862 FORMAT (4X,12,F11.1,F13.1,F12.1,F11.1,F12.1,F10.1,F11.1)
870 FORMAT (6H CASE,14,1X,BA10,14H *ACRPTA* PAGE,14,15X,BA10,174X,0
      H NDM11,0H DM11,0H DM170.1,0H MZ170.3,0H/FS.3,174H
      ---SECTION DESIGN Y-BAR DATA--- )
880 FORMAT (40H STA YBUD) YBUA) YBLD) YBLA) TD-M/IN )
881 FORMAT (1H 3X,12,W0.4,F9.4)
893 FORMAT (10H,40H ---ROOT SECTION HEIGHT SUMMARY---/
      0H TMT)
894 FORMAT (3X,12,F11.4)
895 FORMAT (3X,12,F11.4)
896 FORMAT (6H CASE,14,1X,BA10,14H *ACRPTA* PAGE,14,15X,BA10)
897 FORMAT (40H ---SECTION GEOMETRY SUMMARY--- /100H
      SECT. YSTRC WIDTH BAWC OFS DRS C-ACRO
      T-BU Y-BL /0H ROOT2F10.3,F9.3,F10.3,0F
      0.4)
898 FORMAT (5X,12,1X,F10.3,F9.3,F10.3,F9.4)
899 FORMAT (6H T10F10.3,F9.3,F10.3,F9.4,177)

```

CHART TITLE - INTERFACTORY COMMENTS

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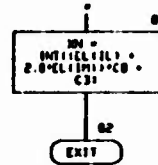
\*\*\*\*\*FUNCTION 10N\*\*\*\*\*

\*\*EVALUATION OF NO. OF N-PLIES FOR GIVEN L AND M PLIES\*\*

\*\*\*\*\*

CHART TITLE - FUNCTION WHILE, INI

FUNCTION TO CALCULATE  
NUMBER OF DEFECTIVE  
PLIES FOR A LAMINATE  
NUMBER OF PLIES IS  
APPROXIMATE AT 60 PER  
CENT



08/14/76

AUTOFLOW CHART SET - SHEEP WINDS AND EMPENNAGE MODULE - PAGE 156

CHART TITLE - NON-PROCEDURAL STATEMENTS

```
COMMON T(9160)
DIMENSION EL(15),CNT(30)
EQUIVALENCE (EL(1),T(1300)),(CNT(1),T(1541)),
            (C3,CNT(13)),(C0,CNT(23))
```

CHART TITLE - INTRODUCTORY CONTENTS

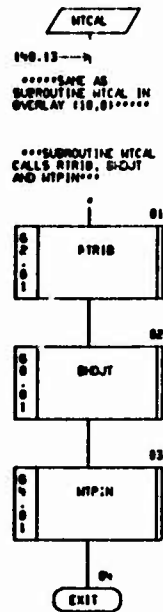
\*\*\*\*\*

\*\*\*\*\*SUBROUTINE MICAL\*\*\*\*\*

\*\*SECTION/PANEL ACTION EVALUATION\*\*

\*\*\*\*\*

CHART TITLE - SUBROUTINE MTCAL



06/14/76

AUTOFLUX C-VT SET - SHEEP NING AND EXPERIMENTAL MODULE - PAGE 159

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE SHOT\*\*\*\*\*

\*\*\*\*\*BULHEAD AND JOINT HEIGHT EVALUATION\*\*\*\*\*

\*\*\*\*\*

06/14/74

AUTOFLOW CHART SET - SHEEP MIN. AND EFFICIENCY MODULE - PAGE 100

CHART TITLE - SUBROUTINE BOUT

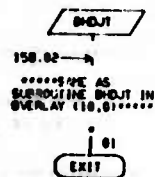




CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE RTAB\*\*\*\*\*

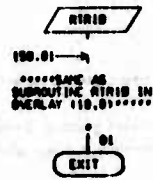
\*\*ROOT RIG AND SHEAR TIE HEIGHT EVALUATION\*\*

\*\*\*\*\*

08/14/74

AUTOFLOW CHART SET - SHEEP KING AID EMPLOYEE MODULE - PAGE 162

CHART TITLE - SUBROUTINE RTIRB



06/10/76

AUTOFLOW CHART SET - SLEEP WING AND EXPERIENCE MODULE - PAGE 103

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*

\*\*\*\*\*SUBROUTINE NIPIN\*\*\*\*\*

\*\*\*SECTION HEIGHT PER INCH EVALUATION\*\*\*

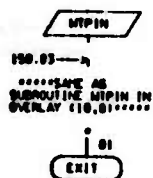
\*\*\*\*\*

AUTOFLOW CHART SET - SHEEP

WIND AND ENTICING MODEL -

PAGE 154

CHART TITLE - SUBROUTINE NIPIN



08/14/74

AUTOFLW CHART SET - SHEEP HINS AND EPPENHAGE MODULE - PAGE 105

CHART TITLE - INTRODUCTORY COMMENTS

\*\*\*\*\*SUBROUTINE SUBDA\*\*\*\*\*

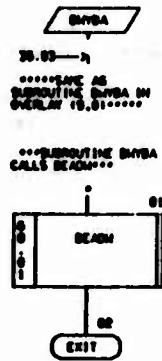
\*\*BEADHEIGHT AND COUPLE ARM ADJUSTMENT FOR PASS (1)\*\*

\*\*\*\*\*

05/14/74

AUTOFLOW CHART SET - SHEEP HIND AND EFTYHAGE MODULE - PAGE 106

CHART TITLE - SUBROUTINE DMYBA



## CHART TITLE - INTRODUCTORY COMMENTS

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\*\*\*\*\*SUBROUTINE DEASH\*\*\*\*\*

\*\*\*\*\*TORQUE AND INERTIA LOAD EVALUATION\*\*\*\*\*

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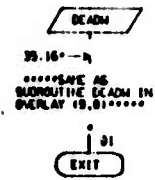
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MINI AND ENTERFACE MODULE -

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CHART TITLE - INTRODUCTORY COMMENTS

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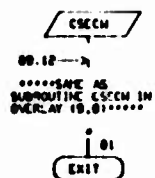
\*\*\*\*\*SUBROUTINE CSECM\*\*\*\*\*  
\*\*CENTER-SECTION HEIGHT EVALUATION\*\*

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\*\*\*\*\*SUBROUTINE PIVOT\*\*\*\*\*

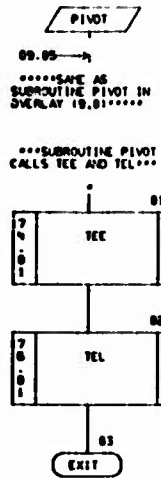
\*\*\*PIVOT STRUCTURE SYNTHESIS AND HEIGHT EVALUATION\*\*\*

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\*\*\*\*\*SUBROUTINE TEE\*\*\*\*\*

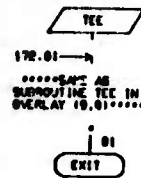
\*\*\*PIVOT DESIGN/SYNTHESIS DATA EVALUATION\*\*\*

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\*\*\*\*SUBROUTINE TEL\*\*\*\*

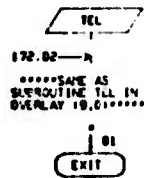
\*\*\*PIVOT DESIGN/SYNTHESIS DATA EVALUATION\*\*\*

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\*\*\*\*\*SUBROUTINE DLPVT\*\*\*\*\*

\*\*\*EVALUATION OF T-BOX STRUCTURE REPLACED BY PIVOT\*\*\*

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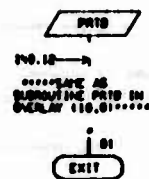
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\*\*\*DESIGN DATA PRINT - TYPE B SECTION DESIGN DETAIL SUMMARY\*\*\*

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\*\*\*\*\*SUBROUTINE PRIC\*\*\*\*\*

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CHART TITLE - INTRODUCTORY COMMENTS

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\*\*\*\*\*SUBROUTINE PRIN\*\*\*\*\*

\*\*\*DESIGN DATA PRINT - TYPE H C-SEC/PINOT DESIGN SUMMARY\*\*\*

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